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# USSR Report

## TRADE AND SERVICES

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# USSR REPORT

## TRADE AND SERVICES

No. 1222

## CONTENTS

CONTENTS (Continued) Page

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# CEMA COOPERATION IN ATOMIC ENERGY FIELD DESCRIBED

Moscow STANDARTY I KACHESTVO in Russian No 10, 1979 pp 10-11

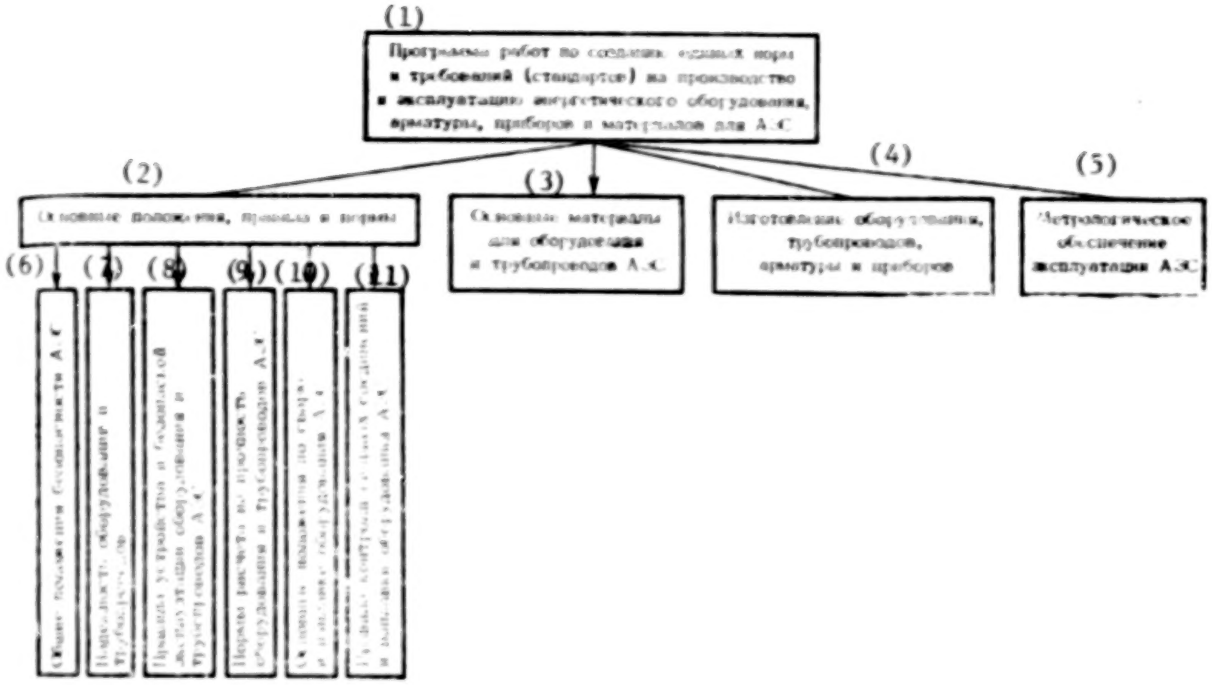
[Article by G. A. Shasharin and Ye. P. Katunov, Soyuzglavzagranatomenergo All-Union Association: "On Cooperation Among the CEMA Nations in the Field of Atomic Energy"]

[Text] The supply of energy for all sectors of the economy is the main factor in the development of any nation's economy at the contemporary stage.

A new and modern branch, electric power engineering, has been created in the past decade in certain CEMA nations (Bulgaria, Hungary, Poland, Romania). Close cooperation among the socialist nations has played an enormous role in its development. Electric power plants with a combined capacity of more than 20 million kilowatts have been built in the CEMA nations with the direct technical assistance of the USSR. The USSR provides fraternal nations with more than 10 billion kilowatt-hours of electric power annually.

The Comprehensive Program for Further Intensification and Improvement of Cooperation and the Development of Socialist Economic Integration Among the CEMA Nations adopted at the 25th meeting of the CEMA Session in 1971 devotes a great deal of attention to the development of atomic energy. On the basis of this program, atomic energy began to be adopted in the national economies of the CEMA nations on industrial scales. A number of bilateral agreements were concluded between the USSR and Bulgaria, the GDR, Czechoslovakia, Poland, Hungary and Romania on the construction during the period 1970-1980 of atomic electric power plants (AES) with the VVER-440 type of reactor.

The Soviet Union is providing those nations with diversified technical assistance, including the development of AES plans and the provision of unique equipment and the performance by highly skilled specialists of especially important jobs in the installation, erection, start-up and operation of the AES power units. The construction of atomic electric power plants is under way on a broad front in the CEMA nations as a result.




Key:

1. Program for creating unified norms and requirements (standards) for the production and operation of power engineering equipment, fittings, instruments and materials for atomic electric power plants.
2. Basic principles, rules and norms.
3. Basic materials for AES equipment and piping.
4. Manufacture of equipment, piping, fittings and instruments.
5. Metrological support for operation of atomic electric power plants.
6. General safety principles for atomic electric power plants.
7. Reliability of equipment and pipelines.
8. Rules for the arrangement and safe operation of AES equipment and pipelines.
9. Standards for computing the strength of AES equipment and pipelines.
10. Basic principles for welding and phasing AES equipment.
11. Rules for checking welded joints and phasing of AES equipment.

The long-range focused cooperative program in the field of energy, fuel and raw materials approved by the 32d CEMA Session in 1978 designated the accelerated development of atomic power engineering as the main area of work.

It is planned to build a number of large atomic electric power plants with a combined capacity of more than 30 million kilowatts in the European CEMA nations in the 1980's. The operation of those plants will make it possible

for those nations to save around 70 million tons of standard fuel annually, which corresponds to approximately half of the fuel and power presently imported into those nations from the USSR.

Successful implementation of the program outlined for developing atomic power engineering is only possible with the all-round development of specialization and cooperation in the production of equipment for atomic electric power plants.

The large "Atommash" plant is under construction in the USSR, for example, and the production capacities of other plants are being expanded, which will produce the basic equipment for various types of atomic electric power plants--nuclear reactors, steam generators and so forth. Under intergovernment agreements implementing the principle of specialization and cooperation Czechoslovakia is already manufacturing reactor units, volume compensators, steam generators and main circulations types; Bulgaria will produce protective equipment and fittings; Hungary will manufacture reactor servicing devices and heat exchange equipment; and Poland will produce volume compensators, heat exchange equipment and diesel generators.

Naturally, certain difficulties arise in the process of manufacturing the equipment. In order for Czechoslovakia to employ Soviet technology for the manufacture of reactor unit equipment, for example, it was necessary to resolve a number of problems arising due to differences between the norms, rules and national standards of the USSR and Czechoslovakia.

Because of this, standardization has become one of the important aspects of the program of cooperation among the fraternal socialist nations in the development of atomic power engineering.

The international chemical association Interatomenergo has developed a program (see diagram) for establishing for the CEMA nations unified standards and requirements with respect to the designing, manufacture, erection and operation of power engineering equipment, fittings, instruments and materials for atomic electric power plants (this also includes unified reliability and quality requirements). Standards and rules developed by the Soviet Union have been taken as the basic ones. Standardized requirements of AES equipment will make it possible to build atomic electric power plants better and in less time.

It should be stated in conclusion that while the developed capitalist nations are curtailing their atomic energy development programs, atomic power engineering is developing at accelerated rates in the CEMA nations on the basis of joint planning of a number of undertakings.



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# NEW PHASE OF CEMA COOPERATION DISCUSSED

Moscow EKONOMIKA STROITEL'STVA in Russian No 11, Nov 79 pp 47-51

[Article by N. N. Ptichkin, adviser to the permanent USSR representative in CEMA: "A New Phase of Cooperation Among CEMA Member-Nations"]

[Text] The 30th anniversary of the functioning of the Council for Economic Mutual Assistance, the world's first international economic organization of socialist nations, is a historic event in the life of that commonwealth of nations.

Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee and chairman of the Presidium of the USSR Supreme Soviet, wrote in his welcome to participants of the 33d meeting of the CEMA Session, held in June of this year: "At the present time we note with satisfaction that the socialist type of international division of labor is developing and gaining strength within the CEMA framework. This has contributed to the development of the socialist commonwealth as the most dynamic, stable and progressive economic system in the world."

The activities of the Council for Economic Mutual Assistance are based on the principles of socialist internationalism, total equality, respect for state sovereignty and national interests, noninterference in the internal affairs of nations, mutual benefit and comradely mutual assistance.

CEMA organizes multilateral economic cooperation, which contributes to the balanced development of each CEMA nation's economy and strengthens the economic power of those nations as a whole. Cooperation within the CEMA framework is actively affecting the accomplishment of the important political task of gradually converging and equalizing the economic development of the CEMA nations.

The CPSU and the parties of other nations in the socialist commonwealth are giving a great deal of attention to the development of economic and scientific and technological cooperation among the CEMA members and constantly directing it toward the accomplishment of basic tasks and improvement of the material and cultural level of the peoples of those nations.

Comrade L. I. Brezhnev stated in his address at a meeting with electors in March 1979: "We give priority attention to our links with fraternal nations. They are becoming more and more extensive and diversified.

"Studying and adopting experience from each other during these years, the nations in the socialist commonwealth have made large new advances in the building of the state and in the development of socialist democracy.

"CEMA's role in the area of economic ties has grown markedly. It has become an important instrument for accomplishing the national economic tasks of the socialist nations."

The CEMA nations have achieved large successes in the development of their economy, science and technology. During the period 1950-1978 they surpassed the capitalist states by 2.2-fold in rates of growth of national income and by 4-fold in growth of industrial output. That portion of the world economy produced by the CEMA members grew from 15 to 25 percent and from 18 to [illegible] percent for the same indicators. This is considerably strengthening socialism's position in the world economy.

A high level of production forces has been achieved, a multibranch national economic structure has been created and the technological level of introduction has risen in the CEMA nations. The national income for the CEMA nations as a whole increased 7.6-fold between 1950 and 1978, and this growth was achieved mainly by increasing labor productivity. The volume of capital invested in the national economy for the CEMA nations as a whole in 1978 represented a 10-fold increase over the figure for 1950, with corresponding increases of 12-fold for industrial output and approximately 2.5-fold for agricultural output.

Economic cooperation among the CEMA nations, which is constantly being improved and expanded, is playing an ever-increasing role in the successful development of those nations. As the main organizer of this planned, multilateral cooperation, CEMA is making an increasingly important contribution to the implementation of the economic policy of the communist and workers' parties of nations in the socialist commonwealth.

The foundation for a modern and qualitatively new phase of cooperation among the CEMA nations was laid in April 1969 at the 23d (special) meeting of the CEMA Session in Moscow. At this meeting, the CEMA members confirmed their desire for a closer joining of efforts for the successful accomplishment of current and long-range tasks in the building of communism. This resulted in the Comprehensive Program for Further Intensification and Improvement of Cooperation and Development of Socialist Economic Integration Among the CEMA Nations, covering a period of 10-15 years. The Comprehensive Program is now being successfully implemented, a process comprising the main element of CEMA cooperation and work.

The Comprehensive Program embraces such extremely important areas of cooperation as the development of the nations' fuel and raw materials base, machine building, science and technology, the production of manufactured consumer goods and foodstuffs, transport and trade, currency and finance and credit relations. Implementation of the Comprehensive Program is actively contributing to closer interaction and the mutual supplementing of the economies of CEMA nations.

Realization of the measures contained in the Comprehensive Program is based on maximum application of scientific and technological progress, which, in turn, is stimulating intensive development of scientific and technological cooperation among the CEMA nations. The number of problems being worked on jointly by these nations has increased 8-fold in the past 10 years. A total of 4,000 projects of a basic and applied nature were carried out through joint efforts by those nations in the most important branches of science, technology and production during the period 1971-1977. A total of 1700 new designs for machines, mechanisms and instruments and 1300 modern and efficient technological processes were created. A full 1400 kinds of new materials, products and preparations were developed. A total of 170 national scientific and technological and economic information agencies were created among the CEMA nations and Yugoslavia.

Production specialization and cooperation are being systematically developed and expanded. More than 200 multilateral agreements have been signed and are being fulfilled, agreements covering the joint resolution, based on specialization and cooperation, of important problems of material production contained in the Comprehensive Program. A large number of agreements have been concluded among the CEMA nations on reciprocal deliveries of specialized products. In the field of machine building, for example, such products now account for around one-third of the reciprocal trade volume among CEMA nations in machinery and equipment.

The coordination of national economic plans of the CEMA nations, which is the main means of developing stable and mutually advantageous economic and scientific and technological ties among those nations, became even more important with the adoption of the Comprehensive Program. Undergoing constant improvement as applicable to the specific demands of cooperation, it is supplemented by mutual consultations on basic questions of economic and scientific and technological policy and by forecasting the development of individual branches of industry and types of production.

The Coordinated Plan for Multilateral Integration Measures Among CEMA Nations for the Period 1976-1980 adopted by the CEMA Session in 1975 is effectively contributing to the fulfillment of the Comprehensive Plan. It is of great political and economic importance, since it focuses upon realizing the most important multilateral integration projects in key branches of the national economy, in which the CEMA nations have expressed a readiness to cooperate during the current five-year period.

The following are some examples of successful realization of the Comprehensive Program and the Coordinated Plan based upon it: the unique "Soyuz" gas pipeline built by an international force, start-up of which permitted the nations participating in the project to receive 15.5 billion cubic meters of natural gas from the USSR annually; the 750 kilovolt electric power line between Vinnitsa (USSR) and Al'bertirsa (Hungary), which is making it possible to further develop and to increase the effectiveness of the parallel functioning of the Integrated Power Systems of the CEMA Nations and the Unified Power System of the USSR; and the large-scale integration projects of constructing the Ust'-Ilimsk cellulose plant and the Kiyembayevskiy Ore-Dressing Plant, from which the participating nations will receive a corresponding quantity of cellulose and asbestos. New capacities for the production of ferriferous raw materials and ferroalloys. The output of nickel and cobalt-containing materials is being increased in the Republic of Cuba with the assistance of the USSR and other CEMA nations. The International Geological Expedition of CEMA nations is working successfully in Mongolia. It is helping Mongolia to utilize its mineral resources both in its national interest and in the interests of all the CEMA nations involved.

A number of specialized international economic organizations have been created in the past 10 years by the CEMA members for purposes of realizing the Comprehensive Program more successfully and expanding the possibilities for mutual cooperation: "Interatomenergo," "Interatominstrument," "Interkhim," "Interkhim volokno," "Intertekstil'mash" and others, whose functioning is coordinated with the work of CEMA agencies.

In accordance with the new cooperative tasks in the areas of production, science and technology, increasing attention is being given to the improvement and strengthening of the system of trade and currency and finance relations. In addition to the existing International Bank for Economic Cooperation (MBES), which contributes to the expansion of foreign trade, the International Investment Bank (MIB) has been created, which helps with the implementation of joint integration construction projects and the construction of national projects built in the interest of international socialist division of labor.

Successes achieved in production and scientific and technological cooperation among the CEMA nations and the expansion of international socialist division of labor have been reflected in an increase in the volume of reciprocal trade turnover and in an expansion of foreign trade links among those nations. Reciprocal commodity turnover among the CEMA members increased 22-fold during the 30 years and approximately 3-fold since the adoption of the Comprehensive Program.

The Soviet Union has made an enormous contribution in all phases of cooperation among the CEMA nations. It meets the bulk of the CEMA nations' needs for fuel, energy and the main types of raw and processed materials, provides them with essential types of machinery and equipment and shares

its scientific and technological achievements. The CEMA nations, in turn, deliver a large amount of machine-building products to meet the needs of the Soviet national economy. This is not only helping the Soviet Union to fulfill its national economic plans but is also providing those nations with a stable and extensive market and permitting them confidently to develop and strengthen their industrial base.

The production forces in the CEMA nations have developed to a new level and substantial structural advances have occurred in production and consumption. This, in turn, has brought out the task of making fuller use of the possibilities contained in the Comprehensive Program to further develop the processes of integration.

With what had been achieved as a foundation, the CPSU and the communist and workers' parties of the CEMA nations decided to take a new step forward. It consisted in developing and implementing long-range focused programs of cooperation (DTsPS) for purposes of meeting the rapidly growing needs for energy, fuel and the main types of raw materials, satisfying the population's requirements for foodstuffs and manufactured consumer goods, raising the level of machine building and accelerating the development of transport facilities.

The 33d meeting of the CEMA Session attended by heads of government of the CEMA nations played an enormous role in the implementation of this decision of our fraternal parties. The Session analyzed and gave high marks to the cooperation among CEMA nations and to the work performed by the Council during the 30 years and compiled an important economic and political summary of the joint work performed by the CEMA members to prepare the long-range focused cooperative programs (DTsPS).

The CEMA Session approved all of the five long-range focused cooperative programs outlined in the areas of energy, fuel and raw materials, agriculture and food industry, machine building, the production of manufactured consumer goods and the development of transport links. Their timely and complete fulfillment is now the most important task of the CEMA nations and Council Agencies. This demands enormous joint efforts by those nations and efficient and smoothly coordinated work on the part of Council Agencies and international organizations created by the CEMA members.

The long-range focused cooperative programs defined the long-range coordinated strategy of the CEMA nations in the key areas of material production and constitute a concretion and development of the Comprehensive Program. They make it possible to carry out social and economic tasks as part of a whole embracing at the same time problems of science, technology, production and marketing.

It is becoming especially important to make maximum use of the results of scientific and technological progress, first and foremost to improve the quality and the technical level of the machinery and equipment produced.

At the 33d meeting of the CEMA Session, Comrade A. N. Kosygin underscored the fact that the successful fulfillment of all the long-range focused cooperative programs developed depends primarily upon machine building and that the technological level of machine-building output determines labor productivity to a decisive degree, which means the entire course of our economic competition with capitalism as well.

The next two five-year plans must be five-year plans of intensive production and scientific and technological cooperation. Specialization and cooperation of production should be expanded and intensified in the most important branches of industry so that it embraces an increasingly broader range of separate industries and types of products.

The CEMA nations and Council Agencies are presently engaged in an intensive effort to develop the long-range focused cooperative programs into a system of multilateral and bilateral agreements on the implementation of measures contained in those programs. In the final analysis, the successful fulfillment of the long-range focused cooperative programs accepted depends upon the results of this work.

The coordination of bilateral and multilateral cooperation is of enormous importance to the successful realization of the long-range focused cooperative programs. Experience has shown that all of the work of fulfilling these programs must be closely linked to the bilateral long-range programs agreed upon by the CEMA nations for production specialization and cooperation, to the coordination of the national economic plans of the CEMA nations for 1981-1985 and to the development of the Coordinated Plan of Multilateral Integration Measures for that period. The result of the coordination of plans must provide for the allocation in the national plans of the material, financial and labor resources to fulfill commitments contained in the agreement on measures under the long-range focused cooperative plans for the forthcoming five-year period.

The agreements will define the conditions of cooperation, target dates for the completion of the separate phases of the work and the mutual obligations of the parties. Approximately 150 multilateral and bilateral agreements will be worked out and concluded for the realization of the long-range focused cooperative plans accepted. Recently, 22 agreements were concluded by way of realizing the long-range focused cooperative plans.

Especially important was the signing of the Agreement of Multilateral International Specialization and Cooperation in the Production and Reciprocal Supply of Equipment for Atomic Electric Power Plants (AES) for the Period 1981-1990. It should be pointed out that realization of the program worked out jointly by the CEMA nations involved for the creation of atomic electric power plants with the technical assistance of the Soviet Union will increase capacities by more than one-third of the entire existing electric power capacity of the European members of CEMA and the Republic of Cuba. The total capacity of atomic electric power plants under construction and those scheduled for construction by 1990 will amount to approximately 37 million kilowatts.

The General Agreement and corresponding bilateral agreements have been signed on cooperation in the construction in the USSR of the Khmel'nitskaya Atomic Electric Power Plant, the Khmel'nitskaya AES (USSR)-Rzeszow (Poland) 750 kilovolt electric power line and the Rzeszow substation. The total capacity of the Khmel'nitskaya AES will be 4,000 megavolts. Deliveries of electric power from the USSR to the power systems of Hungary, Poland and Czechoslovakia are to begin in 1981, reaching 12 billion kilowatt-hours in 1990.

Highly important was the signing of the General Agreement on Specialization and Cooperation in Power-Consuming and Less Power-Consuming Chemical Production, realization of which will permit the nations party to the Agreement to receive power-consuming chemical products from the USSR, compensating with deliveries of less power-consuming products. This will have an extremely beneficial effect upon the fuel and energy balance of those nations and will relieve the USSR of the need to make capital outlays for the production of chemical products requiring little power.

The signing of the General Agreement on Cooperation in the Construction of the Mozyr' Plant in the USSR for the Production of Feed Yeasts of Highly-Purified Liquid Paraffins with a capacity of 300,000 tons of nutrient yeasts annually was highly important for the further development of animal husbandry in the CEMA nations.

Ten agreements have been signed on the reconstruction and technical reequipment of 18 rail lines of international importance with a total length of 20,000 kilometers. A number of other important agreements have been concluded and the final work is being performed on others.

The long-range focused programs do not include a number of tasks of branch and functional cooperation being performed within the framework of CEMA. Cooperation in these areas has become more focused and assumed greater scope with the adoption of the long-range focused cooperative programs. Specifically, cooperation among the CEMA nations in construction has to a decisive degree been subordinated to the tasks involved in fulfilling the long-range focused cooperative programs. It is making a large contribution to the construction of integration projects. The builders are faced with qualitatively new and large-scale tasks of cooperation in the area of designing, developing structural elements, mechanizing construction work, expanding the production of existing types of construction materials and creating new ones. Cooperation in the development and application of CEMA standards and other normative documents has acquired even greater importance. The construction of large integration projects is providing a new incentive for the joint resolution of problems in the area of housing construction.

The main political result of the work performed by the Council for Economic Mutual Assistance during the 30 years, especially in the past 10 years, as Comrade L. I. Brezhnev wrote to participants at the 33d meeting of the CEMA Session, lies in the fact that "A great deal of positive experience

has been acquired in the coordinated accomplishment of urgent economic tasks. Socialist economic integration has become an intrinsic feature of our cooperation and a powerful and stable factor in the all-round progress of the fraternal nations."

Mutual cooperation among the CEMA members and the Council's work are gaining greater and greater recognition by the peoples of those nations. This is mainly due to the fact that the workers of the nations truly feel the importance of cooperation for strengthening the forces of socialism in the world and for improving the people's welfare.

Broad segments of the workers, the laboring peasantry and the intelligentsia are taking an active part in the performance of assignments linked with the integration construction projects. This was reflected especially clearly in the socialist competition launched in a number of nations in honor of the 60th anniversary of the Great October Socialist Revolution and the 30th anniversary of CEMA.

Cooperation among the CEMA members and the Council's work, which are imbued with the principles of peace, have gained great prestige and international recognition. This is also due to the fact that the CEMA nations express a desire to cooperate with developing nations with a socialist orientation for purposes of strengthening their economic and political independence. The CEMA nations express a readiness to cooperate on a basis of equality and mutual advantage with all states, regardless of their social structure, regarding this as a large contribution to the materialization of detente.

CEMA is consistently expanding and strengthening its foreign ties. For 15 years Yugoslavia has participated productively and on an ever-increasing scale in the work of CEMA under a special agreement. Agreements on CEMA cooperation with Iraq, Mexico and Finland are being successfully realized. There is cooperation between CEMA and the DPRK and the LNDR [Lao People's Democratic Republic?]. Multilateral economic ties are being established with the People's Republic of Angola and Socialist Ethiopia. The People's Democratic Republic of Yemen participates in CEMA as an observer.

The Council for Economic Mutual Assistance has contacts with more than 60 different international organizations, has observer's status in the UN General Assembly and is cooperating more and more actively with many regional and specialized UN organizations.

At the 33d meeting of the CEMA Session the Council members reaffirmed their firm resolve to continue expanding and intensifying all-round economic and scientific and technological cooperation, actively implementing the Comprehensive Program for Further Intensification and Improvement of Cooperation and the Development of Socialist Economic Integration Among the CEMA Nations in the interests of each state and of all the CEMA nations as a whole, in the interest of building socialism and communism and securing a stable peace throughout the world.





11499
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## SOVIET-VIETNAMESE TRADE LINKS DISCUSSED

Moscow EKONOMICHESKAYA GAZETA in Russian No 50, Dec 79 p 21

[Article by V. Kapitonov: "The Socialist Republic of Vietnam: The Creative Force of Friendship"]

[Text] The peoples of the socialist commonwealth are advancing confidently toward the creation of a new society. They link their outstanding successes in social and economic development primarily with the creative activities of the communist and workers parties and with the all-round cooperation which has gained strength among the fraternal states.

"The outstanding merit of communists in the socialist commonwealth of nations," Comrade L. I. Brezhnev has noted, "lies in the fact that the former relationships involving alienation, hostility and distrust have long since given way to friendship and fraternal cooperation among equal peoples. This friendship has become a great creative force."

### A Solid Foundation

The strength of the friendship among workers of the fraternal states is clearly manifested in the activities of the Council for Mutual Economic Assistance, which has become an important instrument for organizing international economic relations of the new type. It has become embodied in a stable growth of ties, which have become especially effective and large-scale in the past decade.

The Socialist Republic of Vietnam's entry into CEMA represented a new factor in the strengthening of solidarity and indestructible friendship based on Marxist-Leninist principles among the peoples of the socialist nations. The Socialist Republic of Vietnam's entry into the Council for Mutual Economic Assistance gave powerful impetus to the continuing development and strengthening of the Socialist Republic of Vietnam's economic and scientific and technical cooperation with nations of the socialist commonwealth.

In accordance with the creative goals of socialist economic integration, commonwealth nations are helping the Vietnamese people to develop their economy and to construct extremely important national economic projects.

The 87th meeting of the CEMA Executive Committee in October 1978 discussed helping the Socialist Republic of Vietnam rebuild its national economy and build the materials and equipment base for socialism. Among other things, measures were defined for coordinating assistance for completing the restoration of the extremely important main rail line linking the city of Hanoi with the city of Ho Chi Minh and for continuing construction on projects for which China had halted its technical assistance. A declaration adopted in March of this year by the CEMA Executive Committee in the name of the CEMA members--Bulgaria, Hungary, the GDR, the Republic of Cuba, Mongolia, Poland, the USSR and Czechoslovakia--as a result of China's aggression against the Socialist Republic of Vietnam states that in accordance with the CEMA Charter those CEMA nations are developing all-round economic cooperation, which also serves the cause of securing peace throughout the world.

Bulgaria is providing fraternal Vietnam with assistance in the development of hoisting and conveying equipment and construction materials production and in the processing of agricultural raw materials. Hungary is taking an active part in the construction of a number of enterprises for the production of electrical engineering articles, tools, furniture and medicinal plants and in geological prospecting. The GDR is participating in the development of ferrous metallurgy and in the creation of enterprises for the repair of equipment and household appliances. Cuban specialists are providing extensive assistance with the organization of sugar cane production and the development of animal husbandry. A shipyard is being built with the assistance of Polish specialists. Czechoslovakia is helping the Vietnamese comrades with the development of electric power engineering, machine building and light industry.

In June 1979 the 33d CEMA Session adopted an important decision to extend to the Socialist Republic of Vietnam the basic principles of the Comprehensive Program for Accelerating Its Economic Development (as was done with respect to Mongolia and Cuba) for purpose of assisting the heroic Vietnamese people in their efforts to build socialism.

Soviet-Vietnamese Cooperation

All-round cooperation with the Soviet Union is playing an important role in Vietnam's economic development. Around 190 national economic projects have been built in the Socialist Republic of Vietnam with USSR assistance. Our nation is presently helping Vietnam construct or modernize over 80 more facilities.

The Soviet Union has provided considerable assistance in the development of Vietnam's electric power engineering. Out of 15 thermal and hydroelectric

power plants scheduled for construction under agreements between the USSR and the Socialist Republic of Vietnam, 13 electric power plants with a combined capacity of 408,000 kilowatts have already begun operating. Agreements have been signed covering the construction of the Hoa Binh hydroengineering complex on the Da (Black) River with a capacity of 1.7 million kilowatts and the "Falay" thermal electric power plant with a capacity of 640,000 kilowatts. The Soviet "Gidroproyekt" design organization under the USSR Ministry of Power and Electrification produced the technical plan for the Hoa Binh hydroengineering complex. The plan provides for the construction of a high dam with a hydroelectric power plant equipped with eight 240 megawatt hydrolectric generators. This will be one of the largest hydroelectric power plants in Southeast Asia.

Fraternal Vietnam is receiving assistance in the development of its coal industry. The "Khetam" coal mine with an output of 2.4 million tons of coal per year is now being built and a coal mine near (Vangzan') is being expanded in close cooperation with Soviet specialists.

The chemical industry is an important area of cooperation. A caustic soda plant with a capacity of 66,000 tons per year is being built, the "Laokay" apatite mine is being expanded to produce 1.6 million tons of concentrate a year, and a nitrogen fertilizer plant with a daily production of 600 tons of ammonia and a viscose fiber plant with an output of 20,000 tons of finished product a year are being built through joint efforts.

The Socialist Republic of Vietnam is in turn striving to make an ever-increasing contribution to the development of mutually advantageous relations with the Soviet Union. The USSR received various industrial and agricultural goods totaling more than 152 million rubles from Vietnam last year alone. This included overcoats, outer wear, yarn of natural and synthetic fibers, footwear, cultural and personal service goods, matting, rugs, tea, fresh pineapples and bananas and other goods.

## Scientific and Technological Ties Are Growing Stronger

More than 60,000 Vietnamese specialists and skilled workers have been trained with the aid of the USSR during the two decades in which the intergovernment agreement on scientific and technological cooperation between the Soviet Union and Vietnam has been in effect, 11,000 of which underwent training at enterprises and technical industrial schools of the USSR and more than 11,000 Vietnamese citizens graduated from Soviet VUZ's and tekhnikums. During that period more than 6,000 Soviet specialists in various fields were sent to Vietnam, including engineers, geologists, agronomists, doctors and teachers. More than 700 Soviet specialists are now working in the Socialist Republic of Vietnam. Around 2,000 sets of scientific and technical documents have been turned over to organizations of the Socialist Republic of Vietnam without payment. They were used for designing and building many economic facilities in the Socialist Republic of Vietnam.

Direct scientific and technological ties have developed extensively in recent years between individual ministries and departments of the Soviet Union and Vietnam. For example, a number of projects are being carried out in close cooperation between the USSR Ministry of Power and Electrification and the Ministry of Power and Coal of the Socialist Republic of Vietnam in the development of lightning-protection measures for electric power lines under tropical conditions with a view to working out specific measures for protecting power engineering facilities. A large number of Soviet organizations have been enlisted for the development and manufacture of special research equipment.

A list of objects of scientific and technological cooperation between the USSR and the Socialist Republic of Vietnam for the period 1981-1985 was agreed upon at the recent sixth session of the permanent subcommission for scientific and technological cooperation between the USSR and the Socialist Republic of Vietnam, which was held in Moscow. It covers more than 90 scientific and technical projects in 20 branches of the national economy, which focus upon the accomplishment of important tasks involved in the development of science and technology. The main areas of scientific and technological cooperation for the period extending to 1990 were also approved.

Fraternal cooperation between socialist Vietnam and the Soviet Union in all areas of the economy, science and technology is expanding by the year. A large number of large industrial facilities have been built in the republic with USSR technological participation, including a machine plant in the city of (Kamfa).

Multilateral scientific and technological cooperation between the Socialist Republic of Vietnam and the CEMA nations is constantly expanding. For example, questions of providing assistance with the accelerated development of the Socialist Republic of Vietnam's science and technology to the year 1990 were discussed at a conference of experts of interested CEMA nations held in Hanoi in October 1970. Vietnam acquainted conference participants with the state of development of science and technology in the Socialist Republic of Vietnam and with the priority tasks in this area based on overall tasks of national economic development. Conference participants were told about a number of Vietnam's leading scientific research institutes. Experts from the CEMA nations, in turn, briefed the Vietnamese representatives on the work being carried out in each nation to study the "Program for Participation by Interested CEMA Nations in the Realization of the Plan for Accelerated Development of Science and Technology in the Socialist Republic of Vietnam to the Year 1990" and the list of scientific and technical projects with which the Socialist Republic of Vietnam is requesting assistance from the CEMA nations during the period indicated. They also indicated the desire of the parties involved in providing assistance with the development of Vietnam's science and technology to concentrate their participation in those areas in which each of the parties possesses the best possibilities and conditions for providing the Socialist Republic of Vietnam with effective assistance in the development of its science and technology.

"In the building of a new life," writes (NYAN ZAN), the organ of the Central Committee of the Communist Party of Vietnam, "and in the struggle against the forces of darkness attempting to interfere with this, the Vietnamese people rely upon the support and solidarity of the Soviet Union and the other fraternal socialist nations.... Cooperation between Vietnam and the USSR and between Vietnam and the other fraternal socialist nations will always be one of the decisive factors of the Vietnamese revolution."

11499
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## THE INTEGRATION OF SCIENCE AND EDUCATION

Moscow OBSHCHESTVENNYE NAUKI in Russian No 6, 1979 pp 13-19

/Article by Valentin A. Kontyug, Member of the Academy of Sciences (Organic Chemistry) and Rector of the Novosibirsk State University imeni Leninist Komsomol/

/Text/ A decree of the CPSU Central Committee concerning the activity of the USSR Academy of Sciences Siberian Section (1977) announced "a program of training personnel for scientific centers, higher educational institutions and for industry and agriculture is being developed at the Novosibirsk State University and scientific research institutes of the section." At present, institutes and design bureaus of the USSR Academy of Sciences Siberian Section alone employ more than 2000 Novosibirsk State University graduates (that is, approximately one-fourth of the graduates of this university established 20 years ago). Without a flexible system of training personnel, the scientific centers of Siberia and the Far East could not grow at the rapid rate which is required for the rapid development of the production forces of the eastern regions of the country.

This system was initiated by Academician M. Laurent'yev and his companions-in-arms at the very first stage of establishment of the USSR Academy of Sciences Siberian Section. Its principle involved the integration of science and education with the term "education" always being intepreted in a wide sense. The branches provide for a close interweaving of the direction and form of work in school (and sometimes pre-school education), college and post-graduate education. Such an interweaving is the natural consequence of the integration mentioned above and inevitably leads to the breakdown of interdepartmental barriers. Coordinated at different levels (by the Presidium of the USSR Academy of Sciences Siberian Section, by the rectorate of Novosibirsk State University, by the Committee for Conducting Olympiads, by the Council of Young Scientists and other agencies), the personnel training system at the Novosibirsk Scientific Center is a unified, developing organism, in spite of the different departmental affiliation of its separate sections. Proceeding from this point of view, I want to describe the experience of interaction of the Novosibirsk State

University of the RSFSR Ministry of Higher and Secondary Special Education and the USSR Academy of Sciences Siberian Section, with special reference to the scientific departments of the section involved in personnel training.

The interaction begins at the level of work with school children. One aspect of this work involves the formation of a contingent of students of the university. From its very inception, the work of the Novosibirsk State University was directed toward the solution of the state problem -- namely providing maximal assistance, through the sphere of higher education, to the intense development of the production forces and culture of the eastern region of the USSR. Solution of this problem requires the highest possible involvement of gifted youths of the region in pursuit of higher education. This is an extremely complex problem since, under existing conditions, the level of training of graduates of schools in large towns, regional centers and villages differs greatly. Moreover, the amount of knowledge possessed by a school child is not the only measure of his creative potential. It is no less important, and perhaps even more important, to evaluate his analytical capacity, his skill in reasoning and in discovering unorthodox methods of solving a problem and, on the basis of these evaluations, to help him select his life work. This required the organization of individual contacts of representatives of the system of higher education with school children or at least with those in the upper grades in all corners of this vast region.

The joint efforts of the USSR Academy of Sciences Siberian Section of the RSFSR Ministry of Higher and Secondary Special Education and the RSFSR Ministry of Regional Education produced a solution to this problem. At the time of Olympiads organized by the RSFSR Ministry of Education, the USSR Academy of Sciences Siberian Section Committee on Conducting Olympiads in collaboration with Novosibirsk State University sends dozens of advanced students, graduate students, Novosibirsk State University faculty members and scientists from institutes of the USSR Academy of Sciences Siberian Section into different cities in Siberia and the Far East for active participation in conducting municipal and regional rounds of olympiads and in conversations with school children.

In 1966, there was organized at the Novosibirsk State University, a correspondence school for the study of physics and mathematics for students of the 8th-10th grades of general education schools and its department of chemistry was opened in 1976. In the course of the year, students must complete 6-7 assignments by correspondence. Olympiads and the correspondence school help to reveal gifted children not only in large towns but also in the most remote corners of the vast Siberian region.

The next stage in this trend involved a 3-week summer physico-mathematical and chemico-biological school in the Academy City, (organized by the USSR Academy of Sciences Siberian Section and the Novosibirsk State University) which attracts nearly 600 students of the 9th and 10th grades. The school reinforces the interest of young boys and girls in natural science disciplines and assists in the expansion of their mental outlook. Eminent scientists of the Novosibirsk Scientific Center present lectures on general problems of science and the national economy and also on social aspects of societal life in the summer school. The experiment involving specialized schools during regular school vacation periods has been fruitful. Two of these, the school for young programmers and the school for young geologists, have become regular schools.

The physico-mathematical boarding school (FMSh) operating at the Novosibirsk State University since 1964, has played an important role in ensuring equal opportunities to school children in receiving a higher education in spite of the unequal level of pre-college preparation in major towns, regional centers and villages. Those same olympiads, correspondence schools and summer schools assist in supplying students for the physico-mathematics boarding school. More than 500 students of the 9th and 10th grades annually receive instruction at the physico-mathematics boarding schools and one-third of these are inhabitants of small settlements and villages. On an average, 37 percent of these students are children of workers and collective farmers.

Highly qualified specialists of the Novosibirsk State University and the USSR Academy of Sciences Siberian Section work directly in the physico-mathematics boarding school. Teachers on the staff include 2 persons with Doctor of Sciences degrees and 26 with candidate of sciences degrees while the scientific council of the school includes one member of the USSR Academy of Sciences, one corresponding member, 5 persons with a Doctor of Sciences degree and 6 with a Candidate of Sciences degree. The high level of methodical work and the teaching itself in the physico-mathematics boarding school helps the students to expand and to systematize their knowledge in basic, general-educational disciplines and to compete successfully later in their college entrance examinations.

All of this helps the university, as was noted in the editorial in "Pravda" 7 July 1979, to find students. Almost 2500 secondary school graduates applied, in 1979, for admission to the Novosibirsk State University for one of the 800 vacancies there while the average diploma mark was 4.7.

We now shall examine the interaction of the Novosibirsk State University and the USSR Academy of Sciences Siberian Section at the level of higher education.

The principles of organization of Novosibirsk University closely resemble the principles of integration of science and higher education tested at the USSR Academy of Sciences Physico-Technical Institute imeni A.F. Joffe in collaboration with the Leningrad Polytechnical Institute and developed further at the Moscow Physico-Technical Institute. The use of these principles for constructing the system of higher education at the Novosibirsk Scientific Center is especially effective because of the proximity of the university and different scientific research institutes which embrace practically all areas of natural, technical and social sciences and to the organizational unity of them.

How is this interaction expressed?

First of all, it involves staffing the program with highly qualified personnel from institutes of the center. More than 400 associates of scientific-research institutes, including 12 active members and 20 corresponding members of the USSR Academy of Sciences lecture, conduct seminars and practical studies and direct course work and diploma work at the university. This form of interaction, recommended by the decree of the Central Committee CPSU and the USSR Council of Ministers "Concerning Further Development of Higher Education and Increase of the Quality of Training of Specialists" (1979) undoubtedly ensures a high scientific level of training students and makes the teaching system highly responsive to the demands of the time. At the Novosibirsk State University, work is underway constantly on the determination of the optimal sequence and mutual coordination of the basic course while special courses are being revised regularly.

The use of qualified personnel and the materials base of the scientific research institutes of the USSR Academy of Sciences Siberian Section ensures an individual approach to each student at the concluding stage of instruction. Annually, approximately 600 4th and 5th grade students are sent to academic institutes to complete their course work and degree work. During this, the university requires that the directors of degree studies have doctoral or candidate degrees in sciences in specialties applicable to the type of preparation of the students. This creates excellent conditions for mastery by the students of the methodology and technique of conducting scientific research and for the study by them of the latest achievements in their chosen area of science or technology.

As a rule, the themes of the course work are developed further in the degree studies and, as a result, the student receives rather conclusive scientific results.

The fact that the course work and the degree work involves the solution of some part of serious scientific problems rather than insignificant

school problems is of great significance. Thanks to this, the future specialists, even in the period of training, begin to make a significant contribution to the solution of scientific and technical and national economic problems. Annually, institutes of the Novosibirsk Scientific Center hand in many applications for an invention containing results of student degree studies.

The work of students in scientific research institutes solves still another important problem; it breaks down the psychological barrier, which complicates the adaptation of the college graduate to the scientific or scientific and technical collective. The years spent by the student in the research institute in pursuit of his course work and degree work not only permits him to become immersed in the actual life of such a collective and become a participant in its affairs but also liberates him from timidity and uncertainty concerning his own capabilities.

The use of the scientific potential and the material base of the Novosibirsk Scientific Center permits the smooth revision by the university of the specialization of students and the rapid adjustment of the number of graduates in specialties required for new, important trends of science and technology.

We could present many examples which indicate the fact that the unification of efforts of the Novosibirsk State University and research institutes of the Novosibirsk Scientific Center ensures a very high level of professional training of specialists with a college education. Thus, in 1977, of the 319 diplomas awarded at the All-Union Student Conference "The Student and Scientific and Technical Progress" Novosibirsk State University and Moscow State University shared 1st place in the Soviet Union for the best organization of scientific research work of students. In 1977, students of Novosibirsk State University were awarded 7 medals of the USSR Ministry of Higher and Secondary Special Education and 2 (out of 5) medals of the USSR Academy of Sciences.

In 1978, a student of the department of physics, V. Litvinenko, for his work "Synchrobetatron Resonances During Radiation Chromatism," was awarded the medal of the USSR Ministry of Higher and Secondary Special Education and the Central Committee of the All-Union Lenin Young Communist League and the medal of the USSR Academy of Sciences for "The Best Student Scientific Work for 1978" (the same medal was awarded for the first time 7 years ago to a Novosibirsk State University Graduate I.Shestakov, who is now a Doctor of Physico-Mathematical Sciences). In the same year, a student in the Department of Mathematics, V. Servakh, was awarded the medal of the Ministry and the Central Committee of All-Union Young Communist League, for the work "Question of Calendar Planning Under Conditions of Limited Resources" which contributed directly to the solution of some

problems of economic mastery of the Baykal Amur Trunkline Zone. On the whole, Novosibirsk State University students were awarded, in 1978, according to summary of the All-Union Scientific Competition, 8 medals for student studies and were awarded 11 diplomas.

The interaction of the Novosibirsk State University and the USSR Academy of Sciences Siberian Section does not end with the training of specialists with a higher education. The Novosibirsk University Rectorate made an agreement with the USSR Academy of Sciences Siberian Section concerning the sequence of passage of probationary work by graduates and the subsequent evaluation of it. The Novosibirsk State University and the Siberian Section work quite closely together in training candidates of sciences through their post-graduate studies. There are presently 240 persons pursuing post-graduate studies at the Novosibirsk State University. As a rule, their directors are scientists working simultaneously at the university and in research institutes of the center, which permits the use of all of the previously mentioned advantages of the cooperation of the two departments.

There is also the prospect of the collaboration of the Novosibirsk State University and the USSR Academy of Sciences Siberian Section in such an extremely important matter as the training of highly qualified personnal. Under the conditions of the scientific and technical revolution, this task takes on national importance.

The Institute for Advanced Study of Teachers of the Social Sciences, operating at the Novosibirsk State University since 1973, has provided retraining for nearly 700 teachers. The students attending the institute include many specialists with much teaching experience and extensive research activity in colleges. Therefore, special emphasis here is given to the development of scientific-methodological work and to the generalization of the collective experience of the Chairs of different colleges of Siberia and the Far East.

In 1977, upon the initiative of the USSR Academy of Sciences Siberian Section Institute of Economics and Organization of Industrial Production, there was opened, at the Novosibirsk State University, a special department on economic forecasting and long-range planning. The main task of this department involves provision of assistance to directors of ministries and departments, to directors of enterprises and to college teachers in the mastery of modern methods of optimal planning and control of production. The teaching process is oriented around diverse active forms of mastery of new material, including the conducting of business games with the use of an EVN /electronic computer/. The organization of the new department was possible because of the effective collaboration of the department of economics of the university, the Institute of Economics and

Organization of Industrial Production and the USSR Academy of Sciences Siberian Section Computer Center. The first results of the work of the special department are extremely reassuring.

We shall present a brief consideration of the problem concerning participation of the Novosibirsk State University in scientific developments of the USSR Academy of Sciences Siberian Section. We spoke above of the extensive involvement of students and graduate students of the university in basic research, conducted by academic institutes of the Novosibirsk Scientific Center. Many regular staff members of the university are involved in this research.

Fundamentally new opportunities arose after the organization in 1962 of the scientific research center at the Novosibirsk State University. According to the specific nature of the university, this sector is oriented, on the one hand, for the study of new (predominantly complex) trends which may, in the future, be included in the long-range programs of basic researches of academic institutes and, on the other hand, in the development of those results of highly practical basic researches of academic institutes. It is not surprising therefore, that many studies are being conducted according to 3-sided economic agreements between the Novosibirsk State University, the USSR Academy of Sciences Siberian Section and an industrial enterprise or a design bureau. The material base of institutes of the center is being used for most research.

This is a general picture of the multi-level interaction of the Novosibirsk State University and the USSR Academy of Sciences Siberian Section. This interaction involves not just cooperation of efforts but, more precisely integration, when the interests of institutions of two departments in problems of training personnel and the use of the intellectual potential and material base are so intertwined that it is difficult to distinguish the interdepartmental boundary. The Novosibirsk experiment, which has passed the test of 20 years, has been, on the whole, quite positive. Without doubt, the system of training personnel in the Novosibirsk Scientific Center is far from exhausting all of the possibilities inherent in it and it must continue to improve and develop.

Great attention is given, at the Novosibirsk State University, to the development of the public activity of students and to the search for new forms of work in this direction. Students of the Novosibirsk State University, for the first time among Novosibirsk colleges, formed, in 1963, virgin lands construction detachments and, in 1966, exchanged international detachments with Czechoslovakia and, in 1975, became initiators of the creation of a regional, international student camp. The appeal by the Komsomol organization of the university to lend, in 1979, efforts of student detachments to the operation "Memory," dedicated to the

60th anniversary of liberation of Siberia from the white guard, was supported by many colleges. An excellent school of public and political activity is provided by the measures of the "Week of International Solidarity," conducted annually at the end of April by the university in collaboration with the regional committee and the district committee of the All-Union Lenin Young Communist League (VLKSM). Hundreds of boys and girls conduct subbotniks throughout the year in order to buy, with the wages, surgical instruments, photographic equipment, movie cameras and books which are sent on the day of the "Week" to representatives of progressive youth groups of countries struggling for their freedom and independence.

"We recognize and we shall remember your contribution to our struggle," said Cecily Suares, a member of the governing body of the 13th Political May-Day Meeting. "The radio sets given by you last year are now being used by the voice of freedom in Chile. The tape cassettes which you gave us today will help us bring the voice of unconquered Chile to the people."

At the university, there has arisen traditional evenings of questions and answers which touch upon practically all vital problems of the life of the country and international problems without side-stepping controversial issues. They are supplemented with debates on different themes, especially moral and ethical matters.

These kinds of work together with the peculiarities of the teaching process provide youth with a sense of participation in everything that is occurring in the country and a sense of responsibility for the fate of the world.

For successes in the training of high qualified specialists -- active builders of Communism, Novosibirsk State University was recently given the renowned name of Leninist Komsomol.

2791
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MANPOWER: LABOR, EDUCATION, DEMOGRAPHY

## ONE- AND TWO-YEAR VOCATIONAL-TECHNICAL SCHOOLS

Moscow UCHITEL'SKAYA GAZETA in Russian 27 Nov 79 p 1

[Interview with A. A. Bulgakov, Chairman of the USSR State Committee for Vocational and Technical Education, by A. Orleanskaya: "If There Are Two-Year Schools..."]

> [Text] Modern production insistently demands laborers ready to tirelessly improve their level of skill. Today, about 30 percent of the national income increment is provided through improved worker skill and raising their general educational level. This five-year plan, more than 11 million young workers will receive travel passes to the life of labor upon their graduation from vocational-technical schools. Secondary PTU [vocational-technical schools] play a definite role in this system of academic institutions. At the same time, we still have the one- and two-year schools. How is the problem of raising student general educational levels being solved? Our correspondent asked A. A. Bulgakov, Chairman of the USSR State Committee for Vocational and Technical Education.

[Answer] Each year, the number of schools which do not provide a general secondary education along with a vocational one decreases appreciably. The CPSU Central Committee and USSR Council of Ministers decree adopted in 1969 on "Steps to Further Improve the Training of Skilled Workers in Academic Institutions of the Vocational-Technical Education System" ensured the rapid development and improvement of secondary PTU's. Ten years ago, there were only about 100 of them, and now the number is roughly 4,000. Nearly two million young men and women are being taught in them.

We anticipate than in 3-4 years, practically all our schools will be able to provide graduates, along with vocational skills, general-educational knowledge in the same amount as the secondary schools. It is just such schools which will most fully meet the requirements of developed socialist society for training the next generation of young workers.

However, there are also 1,387 PTU's of the usual type, with enrollments of 671,000, still in use. This is quite a substantial detachment of tomorrow's workers, and of course, we cannot but be concerned about their general educational level, cultural world outlook and future prospects for perfecting their vocational skills.

There exist three variants of general education for students in one- or two-year PTU's: direct training in the vocational-technical school following a combined study plan, parallel training in school and at ShRM [workers' youth schools] (internal form), and, finally, the same principle, but with external (correspondence) training in workers' youth schools.

Which variant is preferable? It hardly makes sense to give priority to any one of them. Consideration must be given to many factors, and in particular to the specifics of the occupation, study load, and so on. The experience of recent years has permitted approximately a fourth of the two-year PTU's to conduct general-educational training of their students on the basis of a combined study plan. The USSR State Committee for Vocational and Technical Education, jointly with the USSR Ministry of Education, has developed a variant in which PTU students take a 9th grade program in two years of night school. This provides an opportunity for reducing the total load to 38 hours per week and to ensure deeper and more lasting knowledge for young people.

Such schools acquire their student bodies on the principle of "a night-school class for the PTU study group." ShRM teachers generally hold classes in general educational disciplines in the PTU's. Class offices with the necessary technical means of training, visual aids and study literature are created there.

Such joint activity by vocational-technical and education organs facilitates retaining the entire student enrollment and helps achieve rather good indicators in the study-education process.

But there are quite a few occupations whose mastering involves specifics which in turn exclude the possibility of operating on the principle of "a night-school class for the PTU study group." I am thinking, for example, of training workers in geological surveying, coal, ore-mining, petroleum, gas, transport, communications and certain other occupations. For this category of workers, correspondence or internal training in the ShRM is the most suitable form.

In execution of the CPSU Central Committee and USSR Council of Ministers decree of 30 August 1977 "On Further Improvement in the Process of Training and Educating Students in the Vocational-Technical Education System," all the conditions necessary for them to acquire a general education in night (shift) schools for working young people are being created locally.

The USSR State Committee for Vocational and Technical Education recommends that joint methods and study-educational work be done by general schools

and PTU's. Joint teacher councils, unified educational work plans and permanent contacts between foremen and class leaders have become customary for many academic institutions. Good results in this directions have been achieved in Moscow, Leningradskaya, Voronezhskaya, Ivanovskaya, Murmanskaya, Rostovskaya and Orlovskaya oblasts and in the Tatar and Mordovian autonomous republics.

Unfortunately, things are not this way everywhere. PTU students are still poorly covered by night-school and correspondence education in Kirgizia, Tadzhikistan and Turkmenia. Student progress is poor at vocational and technical schools of the Buryatskiy and Kabardino-Balkarskiy republic administrations, the Primorskiy Kray administration, and the Astrakhanskaya and Kurskaya oblast vocational-technical education administrations.

[Question] The review "A Secondary Education for Each Young Worker" has taken on broad scope in our country. And, although it presupposes inclusion in its orbit of young people already working, it seems that its success depends in certain measure on the "baggage" with which graduates of one- and two-year PTU's arrive at production.

[Answer] Of course. The two-year break is no trifle if it arises in mastering general educational disciplines (I am thinking of years of study in school). It is entirely clear that it will then be considerably harder for the young worker to master the principles of science in night school. But master them he must. Such is the demand of the times, of the law on universal mandatory secondary education.

The process of obtaining knowledge is in and of itself a stimulus to new knowledge, to study. And we are striving to achieve a situation in which it is not interrupted in the general-education training plan, in connection with arrival at the PTU. If a young man or woman comes into one of them at the very start in an atmosphere which excludes any digression from their general education, they will not abandon classes in night school once they have obtained a vocation.

The best base enterprises, with both PTU's and night schools under their guardianship, zealously follow the successes of their young people. And this is understandable, as they are interested in reinforcing cadres with a modern level of training, ones striving to deepen their knowledge.

After graduation night, the school's baton, if one can thus express it, is passed to production. And of course, the more easily it is carried, the more successful the pass and young workers studying in PTU's will successfully master the program for the school's upper one or two grades. In this sense, the schools of the vocational-technical education system actually facilitate measures important to the state such as the "A Secondary Education for Each Young Worker" review.

11052
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## ROADBUILDING IN SWAMPY AREAS DESCRIBED

Moscow MOSKOVSKAYA PRAVDA in Russian 31 Oct 79 p 1

[Article by V. Kazarnovksiy, chief of the roadbed and surfacing division of SoyuzdorNII [All-Union State Scientific Research Institute of Roads and Highways] and doctor of technical sciences: "Chemistry is Building Roads"]

> [Text] The collective of SoyuzdorNII has advanced a new type of "road top dressing" using material made from the industrial waste of synthetic fibers. The institute's development is being introduced in road construction, particularly in localities near Moscow and in Siberia. V. Kazarnovskiy, chief of the roadbed and surfacing division of SoyuzdorNII, comments as follows:

Roads have been built in swamps for a long time. But previously it was done in this manner: the peat was removed to its hard substructure, then soil was brought in and put in its place, and the usual road surfacing was applied on top. This takes a long time and is expensive and labor-intensive.

We have advnaced a method of compressing the natural substructure. It may be compressed in different ways. A designed fill can be made, and under its weight the loose earth will be compressed together in several years. The compression is speeded up if the fill is poured out higher than designed or if vertical drains are made in the peat for water runoff. Methods of layered compression of soils may be employed. In any case, very accurate calcualtions of the height of the fill are required in order to avoid protrusion of the earth to the side.

Nature has concealed the unique gas and oil deposits of Tyumen in swamps. Without roads there is nowhere to drive through there and they must be built in record periods of time. In carrying out a great deal of work for Siberia and the Far East, we advanced our developments. In Tyumen, precast concrete slabs were used for road surfacing for the first time.

Construction is carried out in two stages. In the first stage, fill is poured out on the surface of the swamp. The concrete slabs are laid on it, resulting in the first stage of the thoroughfare. Gradual compression of the peat takes place in the roadbed. When the settling reaches the extent estimated, they "pour" the seams, and a heavy-duty pavement results, this is the second stage of construction. Nearly 1,000 kilometers of road suitable the year round for fast traffic of heavy trucks already have been laid in Tymen.

Waterlogged soils or shallow marshes also are widespread in the oil regions of Siberia. Vehicles will not sink in them, but will get stuck. There they are making "log roads"--a highway flooring out of wood. Our institute has proposed that the expensive and valuable wood be replaced by the synthetic nonwoven material dornit, which is made out of lavsan waste.

The technology of construction is not complicated. They spread this nonwoven roadbed, which is like reinforcement for the road structure, on any kind of soil. They lay the usual road surfacing on top. As the need arises, a vehicle can also travel simply on the roadbed made of textile material. The use of synthetic materials in road construction has a great future.

In striving to greet the 62nd Anniversary of the Great October in a worthy manner, the institute's collective is directing its efforts toward the completion of the assignments of the fourth year of the five-year plan ahead of schedule.

8936
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# FIVE-YEAR PLAN FIGURES FOR PAVED ROAD CONSTRUCTION

Moscow SEL'SKOYE STROITEL'STVO in Russian No 8, Aug 79 pp 21-23

[Article by P. Konstantinov, chief engineer of the Rosspetsstroy Association of the Roskolkhozstroyob"yedineniye [All-Russsion Association of InterKolkhoz Construction Organizations]: "We are Improving Roadbuilding Efficiency"]

[Excerpt] In the 10th Five-Year Plan, 25,000 kilometers of paved motor roads, including 13,000 kilometers on the farms of the Nonchernozem Zone, must be build and put into service. Today the Rosspetsstroy [Republic Specialized Trust of the Glavspetsstroy, RSFSR] is consolidating and coordinating the work of 38 roadbuilding trusts which are carrying out road construction in 38 autonomous republics, krays and oblasts of the RSFSR.



8936
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## ATOMIC ICE-BREAKER 'LENIN' CELEBRATED

Moscow VODNYY TRANSPORT in Russian 1 Dec 79 p 1

[Article by A. Kalugin: "An Atom Ship's Difficult Miles"]

[Text] The first-born of domestic atomic shipbuilding -- the ice-breaker "Lenin" -- is 20 years old. That is an impressive age for a ship. The ice-breaker has covered more than 350,000 miles and has conducted around 2,000 transportation ships through heavy ice, but it has retained its strength and its use. The care of its crew and its reliable construction will make it possible for it to work for many more years. Happy sailing to you, atomic giant!

It has to be admitted with regret that even people of such a courageous occupation as Polar sailors have not yet rid themselves of the harmful habit of smoking. For this reason the smoking room of the atomic ice-breaker "Lenin" is rarely empty. However, it is also frequented by people who have long ago stopped polluting the very clean arctic air with tobacco smoke. During one's free hours it is always possible to have a heart-to-heart talk here and to find out the latest news....With respect to the news the most informed person on the ice-breaker is, of course, the radio operator.

When the "god of the air" opened the door the conversation immediately died down and everybody stared at the thick package of radiograms in his hand. But he did not hurry to distribute them. He let it be known with his entire appearance that he was extremely worn out by his very difficult duties and strenuous shift on the air. The fact is that during these days the atomic vessel "Lenin" is preparing to celebrate its 20th anniversary, and from every corner of our country and from abroad the crew is receiving congratulatory radiograms. After having seated himself and thought for a few minutes the radio operator suddenly blurted out:

"They are taking us apart!"

"What....How are they are taking us apart?" a young cadet said in open-mouthed amazement.

"How? With the pen. Yes, yes, with the pen! And do you know where? In South Korea."

Let us leave for now the comfortable salon of the ice-cutter since it is far from its home port, among the polar ices, and we cannot vouch for the absolute accuracy of all of the details of the above-described scene. But not only the crew has reason for amazement.

Not so long ago the English weekly MARINE WEEK which pretends to be solid and objective in treating the events of international shipping informed its readers in all seriousness...about the sale of the ice-cutter "Lenin" for metal scrap to South Korea (!). In order to give the color of reliability to this completely invented news item, the newspaper "informs" its readers in a business-like tone that the "sale price of $140 for a ton of dead weight corresponds to the announced rates for other ships which have been sold for scrap." After the refutation which followed from the USSR Ministry of the Maritime Fleet (VODNYY TRANSPORT 27 September 1979) the newspaper MARINE WEEK explained to its readers under the intriguing rubric of "Not Yet Scraped" that it had received this report from certain "broker circles" in London. By itself this case which once again characterizes the "cleanliness" of the sources of information of the bourgeois press would not deserve attention if it was not typical for the methods of treating the work of the atomic ice-breaker "Lenin" in the western press.

When on 3 December 1959 it was announced that the world's first atomic ship for a merchant fleet -- an ice-cutter which had received the name of the great leader of the workers -- had been commissioned in the Soviet Union, anti-Soviet circles in the West were in a state of shock. The stir of world public opinion which had been caused by the launching in the USSR of the first artificial earth satellite had not yet quieted down and the report of the creation in our country of the world's first atomic electric power station was still fresh in the memory of people....And now again a first, the first peaceful use of atomic energy at sea. The propaganda doctrine of the economic weakness and scientific and technical backwardness of the Soviet Union which had been put together by them came tumbling down like a house of cards.

Attempting to somehow discredit the very idea of the use of atomic energy in the merchant marine and to deaden the impression which had been created on world public opinion by the Soviet scientific and technical achievements, many of the publications of the imperialist states created a sensation about the "danger" of radioactive pollution by the ice-cutter of the air and the sea. "We had hardly entered the Danish Straits," the captain of the "Lenin" Boris Makarovich Sokolov recalls about the boat's passage from Leningrad to Murmansk, "when we were

immediately joined by a Danish military patrol-boat which "escorted" us to the entrance to the North Sea. We were almost continuously accompanied from the air -- a Swedish helicopter, Danish or Norwegian airplanes, or American airplanes. Flying-boats with American markings accompanied us to the very northern end of Norway -- the Nordcap Cape."

But it was all in vain. The sensitive equipment did not even show traces of radioactivity.

Then the western press seemed to forget about the existence of the Soviet atomic vessel and concentrated the attention of its readers on the construction in the United States of the experimental ship the "Savannah" whose power installation had been hurriedly refabricated from the atomic engine of a submarine. While the "Savannah" suffered one unpleasantness after another in its tests, the "Lenin" was working at full capacity in escorting merchant ships. During the second navigation period in 1961 it was given a fantastic job: the ice-cutter broke through the heaviest ices to the center of the Chukotsk and ensured the creation on an enormous sheet of pack ice of the new "North Pole-Ten" ice-drift research station. A large group of journalists participated in the cruise and it received extensive international resonance. But this was only the beginning! The opening of the Yenisey Dam, the unprecedentedly early opening of polar navigation, and the late fall escorting of caravans of ships -- this is far from a full list of its feats. During its first six navigation periods the "Lenin" covered 82,000 miles and along with other ice-cutters conducted around 400 transport vessels.

The Soviet atomic ice-cutter did not only break up the ice of the Arctic. Having become a kind of symbol of the use of the energy of the atom for peaceful purposes, it did quite a bit of work in cleaning up the political climate of the planet from the ices of the "cold war."

In 1966 when Soviet specialists made a decision to modernize the atomic installation of the "Lenin" it had already become clear that the "Savannah" had not justified the hopes of its creators. Its unsuitability for commercial use was further complicated by the fact that most countries did not trust the reliability of its equipment and closed their ports to the American atomic vessel. In 1970 the "Savannah" ingloriously ended its sea voyages. At that time the "Lenin," with a new atomic heart, was already conducting caravans of ships to Dudinka with cargoes for the Noril'sk Combine and was opening up the ice barrier of the Karsk gates.

And then, as if on command, a new flurry of inventions about the ice-cutter began. The English newspaper THE GUARDIAN informed its readers about a "serious accident" on the ice-cutter. Other bourgeois newspapers provided colorful descriptions of the "leaks" and "radiation" on

it and even of the crew's "flight along the Arctic ice" from the ice-cutter. Aware of the unconvincing nature of such "information," certain publications referred to insufficient knowledge about the ice-cutter's new power plant. However, the report by the Soviet delegation at the Fourth International U. N. Conference on the Peaceful Uses of Atomic Energy received almost no treatment in the press of the capitalist countries which, incidentally, was also the case with the data on the ice-cutter which had been published in Soviet periodicals. As for the crew's "exposure" to radiation, I would like to cite the testimony of the chief doctor of the atomic vessel which was published during that period in the periodical MORSKOY FLOT (No. 4 1972). "In my practice," N. Lisitsyn wrote, "there was not a single case of occupational illness connected with the influence of radiation on the human organism. All of the sailors have had and are continuing to have normal and healthy children, and some of them have produced twins."

Numerous delegations of specialists and journalists from many countries who visited the ice-cutter were able to convince themselves of its reliability and remarkable technical and economic qualities. The new propaganda soap bubble burst without a trace. For its great contribution to ensuring the arctic shipment of economic cargoes and for its use of atomic energy for peaceful purposes, on 10 April 1974 an ukaze of the Presidium of the USSR Supreme Soviet bestowed upon the "Lenin" the highest award -- the Order of Lenin -- and two years later a large group of its sailors received orders and medals for their billiant mastery of winter sailing to the Yamal Peninsula.

With the commissioning of the new Soviet atomic ice-cutters the "Arctic" and the "Siberia" it became increasingly difficult for western propagandists to maintain their "pose of silence" in relation to the successes of our atomic shipbuilding. The heroic crews of the "Arctic" to the North Pole and the high-latitude sailing of the electric diesel ship "Captain Myshevskiy" under the escort of the atomic ice-cutter "Siberia" became widely known in the entire world. It was precisely at this time that the second atomic ship of the capitalist world, the "Otto Gan," which had been built in the FRG and had no found a practical application in the merchant marine forever left the oceans. The Japanese atomic ship "Mitsu" which had taken around 15 years to build also did not go to sea.. ..At the present time only the Soviet Union possesses atomic merchant ships which are accomplishing economic tasks in delivering peaceful cargoes to the population and industry of the northern areas of our country.

2959
CSO: 1823

## RAILROAD FINANCIAL ARRANGEMENTS AND PROCEDURES DESCRIBED

Moscow DEN'GI I KREDIT in Russian No 8, Aug 79 signed to press 16 Jul 79 pp 67-70

[Article: "Questions and Answers"]

[Text] In connection with the experiment carried out by the USSR Ministry of Railways on improving the management of railroad departments in accordance with the order of USSR Gosbank, dated 4 November, 1975, No. 194 on a number of railroads the centralized extension of credit, accounts, and control over the expenditure of wage funds is being implemented. The essence of the experiment is aimed at improving the end results of the production-financial activity of sectorial line enterprises. Under these conditions credit-accounting interrelationships with the railroad departments are characterized by a concentration of the railroad departments' monetary resources, an increase in the maneuverability of their own circulating and borrowed funds, an improvement in limiting discipline, a strengthening of the controls over the movement of commodity-material values within the railroad departments, and an enlargement of accounts.

Since 1 January 1978 this system of managing economic activity, credit extension, accounts, and control over the expenditure of wage funds has been expanded throughout the entire railroad network. In summing up the results of this experiment, the Ministry of Railways has, at the same time, noted that taking away from the line enterprises the individual rights provided for by the Statute on State Production Socialist Enterprises has, in certain instances, reduced their initiative to seek out internal reserves.

Proceeding from the necessity of increasing the roles of the railroad departments and the line enterprises in organizing the hauling process and further strengthening cost accounting in the railroad departments and line enterprises, the increase of its effect on improving quality indicators and increasing the efficiency of transport production, the Ministry of Railroads adopted the decision to eliminate the planning of profits with regard to hauls for sectorial line enterprises, the centralization of funds for production development and part of the funds for social and cultural measures and housing construction in the railroad departments, and the implementation by them of controls over the distribution of wage funds to the line enterprises, as well as the retention by the sectorial line enterprises of the

rights which are provided for by the Statute on Socialist State Production Enterprises.

Under these conditions a number of bank institutions and railroad departments have questions connected with implementing operations to extend credit, accounts, and controls over the expenditure of wage funds. Answers to these questions are given below by I.D. Taflya, Chief of the Transport and Communications Administration of the USSR Gosbank Board, and V.E. Popkova, the administration's chief economist.

[Question] Taking into consideration the fact that the practice of centralized credit extension, accounts, and controls over wage expenditures of railroad departments have justified themselves, is it feasible under these conditions to open up payment accounts for railroad sectorial line enterprises, and how should accounts be implemented under the new conditions of administering economic activity on railroads?

[Answer] In accordance with the Statute on cost accounting of railroad departments and sectorial line enterprises, as approved by the Ministry of Railways on 28 November, 1977, railroad departments and their enterprises are socialist state production enterprises, operating on cost accounting and having their own balances, payment and other accounts at the bank.

Proceeding from this, payment accounts may be opened for the sectorial line enterprises, and operations with respect to accounts with suppliers and purchasers may be carried out directly by these enterprises in the generally accepted order at the location of their payment accounts. It should be borne in mind, however, that many railroads on which the experiment was carried out do not consider it feasible to open up payment accounts for the sectorial line enterprises. These railroads completely maintain the conditions of centralized credit extension and accounts, as provided for by the USSR Gosbank's order, dated 4 November, 1975, No. 194, "On Centralized Credit Extension, Accounts, and Controls over the Expenditure of Wage Funds in connection with the Expanded Experiment on Improving the Administration of Railroad Departments' Economic Activity." Other railroads are posing the question of opening up payment accounts for all line enterprises.

Therefore, the group of enterprises for whom payment accounts have been opened up and which are directly carrying out accounts with suppliers and purchasers for goods and materials and are receiving credits in the form of accounting documents along the way as well as payment credits is determined by the Gosbank offices in conjunction with the railroad administrations.

Moreover, it should be borne in mind that the accounts for goods and materials discharged by the warehouses of the material and technical supply section of a railroad department to the enterprises of its own department are conducted in a centralized procedure by means of the intra-economic accounting of the railroad department. The accounts for these goods and materials are carried out in a common procedure between the railroad departments and their material and technical supply sections, as a rule, by

means of plan payments. Subsequently the sums of payments for goods and materials are held back by the railroad department from the financing sums due the line enterprises for work done with regard to hauls, and they are reflected by notations on the "Inter-economic Accounts."

In connection with this, payment accounts must be opened up for all the material and technical supply sections, their credit extension can be carried out independently as above-norm production reserves by means of simple loan accounts. Credit extension of these organizations by means of commodity turnover is feasible.

In cases where the railroad departments have centralized bookkeeping units which encompass the accounts of all the department's enterprises for goods and materials, items produced, and services rendered by the line enterprises, the receipt of payments credits and loans in the form of accounting documents along the way may also take place in a centralized manner and in accord with the USSR Gosbank's order, dated 4 November, 1975, No. 194.

Moreover, the sectorial line enterprises can utilize for their accounts of goods and services checks from limited checkbooks which have been obtained by the railroad departments. In order to purchase a checkbook, a railroad department may obtain credit at the bank institution which is handling its payment account. Under these conditions the sum of the loan is transferred to the bank institution at the location of the line enterprise and is listed on Account No. 722, "Limited Checkbooks and Limited Statements." The checkbooks are issued in the name of the railroad department to the line enterprises upon its request.

In case of an incomplete utilization of the limit with regard to the checkbook the railroad department may be granted a deferment in repaying the loan in the sum of the unused limit with the provision that the terminal period for amortizing the indebtedness not exceed 30 days from the date when the loan was issued. These loans are amortized by the railroad departments from their payment accounts in the established procedure, but in the absence of funds from their payment accounts--from the accounts of their guarantor (the payment account of the railroad administration or the income account of the Ministry of Railways).

[Question] What procedure is followed in carrying out credit extension to railroad enterprises for production stocks and other objects?

[Answer] Regardless of the presence in the sectorial line enterprises of payment or current accounts, their credit extension for above-norm production stocks, unfinished production, expenditures for future periods, and seasonal production outlays is carried out in a centralized manner through the railroad departments with a guarantee by the railroad administration in the procedure established by the USSR Gosbank order dated 4 November 1975, No. 194. In the absence of funds in the railroad department's account to amortize the term indebtedness the bank's institutions may not refer it to the account of overdue loans but rather prolong the payments on the loans to a period of as many as five days--until the time when funds arrive to

amortize the indebtedness from the guarantor's account (the payment account of the railroad administration or the basic income account of the Ministry of Railways for the railroad in question).

A communication regarding the unamortized sum of indebtedness of a department situated outside of the location of the railroad administration is sent by telegram (over the wires of the Ministry of Railways) on the day when the term of amortizing the loan expires to the bank's institution at the location of the guarantor's account. On the basis of this communication a transfer of funds is made from the account of the railroad administration (the payment account or the income account of the Ministry of Railways) to amortize the indebtedness on the loans which were issued.

[Question] How does the bank carry out a differentiated approach in extending credit to various railroad departments?

[Answer] The railroad department is the basic line enterprise, to whom credits are granted for above-norm production stocks. In connection with this a differentiated approach in credit extension is carried out towards railroad departments as a whole, depending upon the approved production plans being carried out by them, the accumulation plans, and also their ability to retain their own operating capital.

[Question] What is the nature of centralized control over the expenditure of wage funds with respect to railroad departments?

[Answer] Control over the expenditure of wage funds with respect to railroad departments is carried out by the same Gosbank institution where the railroad department's payment account was opened, in accordance with the directives of the USSR Gosbank order, dated 4 November 1975, No. 194 and the letter of USSR Gosbank, dated 15 November 1977, No. 2520.

The statement on the wages charged and due is compiled for the railroad department as a whole and is presented to the bank insitution which is servicing it no later than the 12th of the month following the reporting quarter.

The total amount due for wages inasmuch as the plan has been fulfilled (Column 5 on the wages charged and due) is determined for a railroad department on the whole by means of adding up its totals, derived for each line enterprise, proceeding from the basic indicators established for the line enterprises for distributing the wage funds.

The sum total of wages to be issued to the railroad department (Column 6 of the statement on wages charged and due) is determined by the line marked "Total" in the statement; moreover, it should correspond to the amount of wages actually charged by all the sectorial line enterprises, but it must not exceed the amount listed on this line under Column 5, "Sum Due for Wages Inasmuch as the Plan Has Been Fulfilled." Within the limits of the total amount obtained from the line marked "Total" from Column 6 of the statement

the railroad division proceeds to transfer by telegraph, using the code-word "ASTOF" the wage funds to the sectorial line enterprises which fall within the jurisdiction of the railroad department.

The transfer of funds is carred out in such a way that they arrive on time to issue the wages. The request to reserve funds in the account of the railroad department for wage payments is accepted by the institution of USSR Gosbank within time periods which have been set with consideration being given to the length of time required for postal deliveries to the bank servicing the sectorial line enterprise. In cases where the accounts of the sectorial line enterprises, auxiliary enterprises, and other enterprises have the funds to make wage payments and, consequently, there is no need for a transfer to them of money by the railroad department, the bank institution upon the request of the railroad department may issue a telegraph order to the bank institution which is servicing these enterprises concerning the issuance from their accounts of funds for wage payments also with the indication of the code word "ASTOF."

The results of the bank institution's use of the wage fund during a quarter must be examined with respect to the railroad department as a whole. Overexpenditure of the wage fund is determined with respect to the railroad department as a whole and may be issued with the permission of the chief of the railroad administration by virtue of and within the bounds of the wage fund approved for the quarter as well as by virtue of the wage fund reserve for the current year.

Control over the expenditure of wage funds by the sectorial line enterprises is exercised by the railroad department. When the sectorial line enterprises are permitted to overexpend wage funds, the railroad department must establish the causes of the overexpenditures and require that the managers of the line enterprises bring order into the utilization of funds for wages.

In order to account for funds issued by the Gosbank institutions to sectorial line enterprises, to auxiliary enterprises, and others for wages (present or transferred), use is made of a card in accordance with Form No. 206 (Supplement No. 10 to Regulation No. 24). The data contained on this card do not include the bank institution by location of the sectorial line enterprises, or the auxiliary enterprises and others in the report on the expenditure of wage funds.

[Question] What procedure is followed in issuing wage funds for capital repairs?

[Answer] In the statement on the wages charged and due the amounts of the wages charged for work on capital repairs, track maintenance, and other basic funds are indicated on a separate line after the total. Savings made on the wage fund, calculated as a percentage of fulfillment of the capital repairs plan, may not be utilized as wages for workers engaged in operational or auxiliary activities nor for workers employed in the railroad department's other enterprises.

Wage funds for capital repairs of the track system, buildings, and other structures, as well as other basic funds in excess of the amounts due insofar as the operations of the quarterly plan have been fulfilled, are issued upon the permission of the chief of the railroad administration at the cost of the absolute savings on the wage funds for the railroad administrative quarter as well as at the cost of supplementary fund, allocated by the railroad administration from its own reserves.

[Question] Is it possible for a railroad department to utilize the savings which it has from previous quarters with regard to the wage funds of non-staff (supernumery) personnel for payments during succeeding periods of the year?

[Answer] Savings with regard to the wage funds of non-staff (supernumery) personnel which are obtained during the period from the beginning of the year cannot be utilized to cover overexpenditures allowed during subsequent quarters.

* * *

Readers' questions concerning the Gosbank institutions' controls over the expenditure of wage funds are answered below by the chief of the wage-fund administration of the USSR Gosbank Board, M.I. Volkov.

[Question] To the production associations and enterprises of what sectors of the national economy can be applied the wage funds reduced by 50 percent of the norm in cases where the plan production output is over-fulfilled by virtue of enlisting an above-plan number of industrial-production personnel and thereby not fulfilling the task assigned with respect to the increase of labor productivity?

[Answer] Wage funds reduced by 50 percent of the norm are applied by USSR Gosbank institutions solely with regard to production associations and enterprises of the national economy's industrial sectors, with the exception of enterprises of the light and food-processing industries.

[Question] What procedure is followed in applying wage funds reduced to 50 percent of the norm with respect to production associations and enterprises among which the growth of labor productivity is calculated according to commodity (gross) output, while wage funds are issued to them in terms of how they have fulfilled the plan for finished output?

[Answer] If a production association or enterprise has been issued wage funds in terms of how they have fulfilled the plan for finished output, while the growth of labor productivity is calculated according to commodity (gross) output, then in case they over-fulfill their plan production of commodity (gross) output by virtue of enlisting an above-plan number of industrial-production personnel and thereby not fulfilling the task assigned with respect to the increase of labor productivity, the wage funds reduced by 50 percent of the norm are applied for each percentage point that the plan is over-fulfilled with respect to the amount of finished output.

In cases where the production association or enterprise does overfulfill the plan with respect to amount of finished output but does not fulfill the plan with respect to the volume of commodity (gross) output, the wage funds reduced to 50 percent of the norm for each percentage point that the plan is overfulfilled with respect to the amount of finished output are not applied.

[Question] What method may be used to verify the correctness of the data shown by production associations and enterprises in their statements on wages charged and due concerning the approved assignment for the reporting quarter with regard to the growth of labor productivity, bearing in mind that this assignemnt has been approved by the aobive-mentioned organizations with a total which increases as the year moves along (the first quarter, the first half-year, nine months, and the year)?

[Answer] In order to verify the correctness of the data shown in the statements on wages charged and due concerning the approved assignment for the reporting quarter with regard to the growth of labor productivity, the following method is recommended.

Let us assume that the production association has been assigned a task for 1979 with regard to the growth of labor productivity amounting to 104 percent, including: 102.9 percent for the first quarter, 103.4 percent for the first half-year, and 103.6 percent for the nine-month period. In order to determine on the basis of these data the assignment with regard to the growth of labor productivity appropriate for the second quarter, it is necessary to multiply the plan growth rate of labor productivity for the first half-year (3.4 percent) by 2 (the number of quarters in the given period) and subtract the plan growth rate with regard to this indicator for the first quarter (2.9 percent). In this instance the assignment with regard to the growth of labor productivity for the second quarter will amount to 103.9 percent [(3.4 percent X 2--2.9 percent) + 100].

In determining the assignment with regard to the growth of labor productivity for the third quarter it is necessary to multiply the plan growth rate of labor productivity for nine months (3.6 percent) by three (the number of quarters in this period) and subtract the plan increase of labor productivity for the first half-year (3.4 percent), multiplied by two (the number of quarters in this period). In this instance the assignment will amount to 104 percent [(3.6 percent X 3--3.4 percent X 2) + 100].

An analogous procedure is followed in determining the assignment with respect to the growth of labor productivity for the fourth quarter, which in our example will amount to 105.2 percent [(4 percent X 4--3.6 percent X 3) + 100].

[Question] Must the USSR Gosbank institution warn an enterprise which has allowed an overexpenditure of the wage fund, for example, for the first quarter, regarding its transfer from July to monthly control, in case the enterprise does not take measures to eliminate shortcomings in the organization of labor and during the second quarter again allows an overexpenditure of the wage fund?

[Answer] Yes, the Gosbank institution must issue such a warning.

[Question] What procedure is followed in using savings on wage funds which have been made in individual months of the current quarter with regard to associations, enterprises, and organizations which have been converted to monthly control over the expenditure of wage funds?

[Answer] Savings on wage funds, recalculated as a percentage of the amount of the plan finished during the month, are sent in an established procedure to reimburse previously allowed overexpenditures of the wage fund.



2384
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## DELAYS IN FAR EASTERN AND SIBERIAN TRAIN TRAFFIC

Moscow GUDOK in Russian 15 Dec 79 p 2

[Article: "These Notorious Junctions"]

[Text] The "east-west" operation was apparently coming to an end: 31,000 surplus cars remained at the middle of November in the operating stock of the railroads of the Urals, Siberia and the Far East. And the rates of transferring the surplus rail cars were sufficiently high in November. But matters became worse at the end of November and the beginning of December--the trains in the odd direction were delayed. As a result there are now 29,000 surplus cars on the railroads of the Urals, Siberia and the Far East.

What is wrong? Again it is the problem of junctions. Druzhinino Station is again delaying train traffic from the east. According to the technical plan, it should receive 55 trains daily, but only 38 actually are passed to the west.

But the main obstacle in the path of the trains coming from the east was the junction terminal between the Krasnoyarsk and Eastern Siberian railroads--Tayshet Station. Instead of 74 trains per day, it passes only 67 in the odd direction. Rolling stock from the west also passes just as poorly through it--seven trains below the norm.

It should be noted that transfer of rail cars through this station in both directions decreased appreciably since it became an inter-railroad junction. Bureaucratic disagreements between the Krasnoyarsk and Eastern Siberian railroads have intensified. They in no way contribute to successful fulfillment of the general state task.

Trains from the west were frequently stopped in front of Mezhdurechensk Station during the first 10 days of December. The reason is found in the fact that the tracks are in unsatisfactory conditions here.

The Alma-Ata Railroad, where locomotives are seized and passed to unconsolidated branches has let down the Western Siberian Railroad very much. As a result, the Western Siberian workers do not have enough diesel locomotives for hauling trains to the Lokot' junction station.

Rolling stock pass even more slowly through Arkhara. The even-direction flow was especially delayed. True, the traffic engineers cannot be accused in this case. There is, as they say, an objective reason. The Bira-Khabarovsk section is being electrified--the "windows" are frequently shifted.

The managers of the railroads in the Urals, Siberia and the Far East should keep the following in mind. Odd freight traffic flow has now been reduced sharply. And in order not to delay the even flow, dispatching of locomotives in the odd direction must be intensified by a reserve--from Petrovsk Zavod to Mariinsk.

Transfer of trains is being organized best on the Western Siberian, Sverdlovsk and Southern Urals railroads. The number of trains without locomotives has been reduced significantly on the Trans-Baykal railroad.

6521
CSO: 1823

## PROBLEMS IN LAYING COMMUNICATIONS LINES ALONG BAM

Moscow GUDOK in Russian 15 Dec 79 p 2

[Article by O. Sokolov-Baykov, chief technician of the Engineering Department of Glavbamstroy: "Above or Below the Ground?"]

[Text] One of the most acute problems which the builders of the Baykal-Amur Mainline Railroad have encountered was laying the communications lines.

When the temporary settlements were erected, everything proceeded rather simply. The long winters and the need to provide the populace with heat and electric power under these conditions drove the builders, forcing them to act quickly. The sensible idea suggested that the heating system could be laid above the ground in these cases. And this is what they did. Instead of breaking up the unyielding frozen soil and digging trenches in it, they knocked together wooden boxes, insulated them with slag wool, sawdust or moss and laid the lines. They placed posts on cribwork supports for the overhead electric transmission lines.

Is this primitive? Possibly. But this was justified during operation! If the heating line broke somewhere, if a pipe rusted through or if a slide valve failed, they opened up the box, corrected the defect and the system was saved against freezing. And if someone suggested the "trench" version at some time, this was taken as a joke. Incidentally, the heating line boxes were used as pedestrian crossings, eliminating the need to lay sidewalks.

But now the builders have begun to construct permanent objects. How are the planning organizations solving problems of laying communications lines? Unfortunately, they are unwillingly deviating from the traditional "western" solutions, hardly taking into account the specific climatic and engineering-geological conditions of the region as a whole and of its individual sections. The Mosgiprotrans Planning Institute [Moscow State Planning and Surveying Institute of the State Industrial Committee for Transportation Construction, USSR], for example, has hidden almost all the systems within the squares in Mogot, Zolotinka and Berkakit villages in

the frozen, unyielding ground, even though it is not easy to cope with this problem.

How is the underground variant of laying communications lines poor?

First, it is laborious work to excavate trenches in frozen soils in winter, it is expensive and frequently it is simply impossible, since it is dangerous to carry out drilling-explosive operations at the construction site. Thus, there is the seasonal nature of construction-installation work, the summer here is short and one does not always succeed.

Second, not only torrential rains but also frozen water fall into the trenches in summer. The soil of the "active" layer gradually thaws and releases moisture and the trenches become a unique water-drain channel. Expensive drainpipe, which are also not provided in the plans, are not very efficient since operation of them under arctic conditions is difficult. And moreover, this drainpipe cannot be installed during the construction period in each trench and the thawing soil at the development site is quite adequate so that the water flows "along the throat." And if one tries to insulate and waterproof the underground lines well under these conditions and to lay manholes and pipes along the markers, one must ensure against their subsequent sagging and heating the manholes and chambers.

And if one does not manage for some reason to do everything before the onset of frosts and they touch the water, local ice deposits appear, the foundation heaves and the joints freeze. You have to postpone work until the following season or turn over material that is known to be rejected!

Unjustified labor and material expenditures to control water and sagging, as well as nervous strain, which is undoubtedly a poor assistant, cannot be thrown out of the calculations.

And, finally, even with ideal laying of the heating system under the earth in winter, a thaw zone forms around the manholes--the result of a difference of plus temperatures in the channel and minus channels in the surrounding soil zone. Hence, moisture leaks in and there is the inevitable local sagging. When the trenches are ventilated to maintain a constant minus temperature on the walls, this leads to unjustified heat losses and overconsumption of fuel in the boilers, which is economically unfeasible.

I would like to again mention Berkakit Station, where Mosgiprotrans did not provide a multiple drainage system and used typical heated manholes for dry soils in designing the heating systems within apartments of the residential village. This was expensive for the builders, who were literally flooded with water.

Many troubles also await the operators. They will frequently think of the designers when, with crowbar and pick in hand, they have to search out damage in a clogged communications line, a broken heating system pipeline or a "punctured" power cable.

We feel that solution of this problem can be divided into two steps. The design versions must be urgently reconsidered in the first step. Drain systems must be designed where underground communications lines are provided.

The problem of converting to trenchless aboveground laying of communications lines should be considered in the second step when planning the BAM villages. Obviously, the heating, water supply, delivery sewer lines and electricaly, telephone and radio systems can be combined.

There is no seasonal factor in the aboveground variant, installation conditions are improved, the quality and reliability of system operation are increased and maintenance of them is simplified. After all, it is no accident that surface installation was used successfully at Noril'sk. Of course, a number of engineering problems had to be solved, the architectural-planning solutions of the villages on the BAM had to be reviewed and they had to deviate from the traditional development schemes.

A variant of combined installation of systems on supports up to one meter high with installation of overpasses and crossings at intersections points with roads and pedestrian sidewalks is possible. Scaffold bridges for communications lines can be combined with heated pedestrian tunnels, intersections of which with roads will be done at different levels. In short, there is something to think about.

6521
CSO: 1823

## RAIL TRANSPORT PROBLEMS AT GOR'KIY

Moscow GUDOK in Russian 15 Dec 79 p 2

[Article by L. Kiseleva, deputy chairman of the People's Control Group of Gor'kiy-Moscow Station, S. Sablin, senior spur track inspector of the Gor'kiy Division, L. Volkov, GOR'KOVSKIY RABOCHIY correspondent, and A. Yudanov, GUDOK correspondent: "In the Position of Stepchildren"]

> [Text] Comrade L. I. Brezhnev, in his speech at the November (1979) Plenary Session of the CPSU Central Committee, criticized the work of railway transport for crude violations of the freight shipment plan. Leonid Il'ich also indicated the need to sharply increase the responsibility of industrial, construction and trade enterprises for timely loading and freeing of rail cars. The published raid material reveals deficiencies in the use of rolling stock at Gor'kiy enterprises.

The use of rail cars has deteriorated sharply since 1977 on the spur tracks of the Gor'kiy Machine Tool Production Association. Three years ago each rail car stood idle on its loading fronts for 10.5 hours compared to the norm of 9.8 hours. The figure was 12 hours in 1978. This year the idle times have approached 13 hours and they comprise 14 hours in November and December. At the same time the association itself, like tens of other enterprises of the city, is experiencing an acute shortage of rolling stock.

Why has such an unfavorable situation been created in the association?

We asked this question of the director of the association P. A. Baranov. Instead of an answer, Comrade Baranov essentially talked about how important it is to have strong rear forces at the enterprise, that is, a modern transport shop and large warehouse facilities. He then began to complain that too much of his time is spent with concerns about shipping finished products.

"And generally," Petr Artem'yevich stated categorically, "we are concerned a lot and constantly with our own transport section."

However, the facts indicate otherwise. The transport section is remembered only when Gor'kiy-Moscow Station is fined for above-norm idle times or after the people's control bodies and the Lenin party raykom request an explanation from the association managers concerning delays of rolling stock.

The section facilities, especially the hoisting mechanisms, are in unsatisfactory technical condition and the cranes require replacement or major overhaul. But neither one nor the other is being done. Only four of seven diesel locomotives are in operation and the remaining ones remain idle--there are no spare parts and there are not enough qualified personnel for repair work.

Incidentally, a word about personnel. Only half the loader and track installer brigades in the section are at full force. And not because people don't want to work here. Little concern is manifested about them and they are poorly provided with tools, small-scale mechanization equipment and special clothing. The heavy manual labor naturally leads to personnel turnover.

Proper attention is generally not devoted in the association to technical development of the transport section. The locomotives and cranes are "stored" in the open. The so-called depot is in a building that looks like a barn. A diesel shunting locomotive and crane have difficulty in moving simultaneously in it. One can see that the windows in the depot are covered with plywood. What is wrong? It turns out that the association managers decided to "insulate" the building by this "method": the building is cold because the doors are broken, the roof is in poor condition and the heating system does not operate. And now it has even become dark in the depot.

Before visiting the transport workers, we visited some production sections. There is nothing bad that you can say about them: they are large, warm and there is plenty of daytime and electric lighting. But the transport section is like a stepchild here. Thus, it was planned to spend 20,000 rubles this year on reconstruction of the track facilities, but only 10,000 were assimilated. Until now there has been no station to house the locomotives and cranes on the route. There is no diesel locomotive repair base--they are repaired in the open.

Nothing has been done. Nothing has been fulfilled. And it is literally like this for each item of the plans and pledges for development of the transport-warehouse facilities. How can one talk about productive use of rail cars here!

The managers of the Plant Dvigatel' Revolyutsii (the director is Yu. V. Sukhov and its deputy for supply and transport is K. K. Laletin), who in no way want to transfer the building of the former locomotive depot to the transport workers, which is free with regard to organization of a combined

transport facility here, also occupy a strange position. But after all the rail car idle times at this plant have exceeded six hours above the norm. Every third of them is loaded with violation of the GOST [State Standard] and is returned to the plant to make up for rejection.

The idle times at the other enterprises serviced by the combined transport facilities are also high. This is especially true at the leather factory, at the administration of production-technical equipment, at the lumber packing warehouse and the soft packing factory. No unloading is usually done here at night, on days off and on holidays.

There are also serious complaints against the workers of the Gor'kiy Railroad. Three million rubles' worth of finished products were accumulated at the machine tool building plant because of them. We saw hundreds of unique machine tools ready for shipment in the assembly and paint sections--there was no lumber for packing. The machine tool builders had a shortfall of more than 300 rail cars of lumber from the railroad workers and no one knows when the planned raw material will arrive. "We have no empty cars," the commanders of the Gor'kiy Division of the railroad answer imperturbably.

Actually, there is a shortage of empty cars, especially of gondolas. Consequently, they must be searched out by more efficient use of transport facilities. Unfortunately, up to 100 rail cars are lost daily at the stations of the Gor'kiy-Moscow, Gor'kiy-marshalling, Kostarikha, Pochinka, Myza and Petryayevka junction terminals due to deficiencies in organization of the work. They are adequate to support several enterprises of the city with a surplus.

Information of the consignees on the arrival of trains is also unsatisfactory among the railroad workers. It happens this way: rail cars with freight were already dispatched to the spur track and the station is called only after this--he says prepare people and equipment.

The combined transport section of the machine tool building plant is unfortunately no exception. On the contrary, its deficiencies are typical for the transport facilities of many enterprises and organizations of the city. The situation is very poor in this regard in the Reinforced Concrete Bridge Structures Plant of Mintransstroy [Ministry of Transport Construction], whose spur tracks are adjacent to Petryayevka Station. A base of the Gor'kiy subway is being constructed in this rayon and the plant is supposed to service the most important construction site of the city. But the railroad track from the station to the base is impassable. The travel speed along this branch is limited to five kilometers per hour.

The situation is no better at the metallurgical, rubber products and brewing plants. More than 2,000 rail cars were lost this year through the fault of the workers of these enterprises.

The Gor'kiy Wine Association, where the deputy general director for supply and transport is B. V. Kaygorodov, set "records" for idle times. It entered 1,150 rail cars during 11 months to the "account of wastefulness" and the railroad paid 50,000 rubles in fines for idle times. The bureau of the Nizhegorodskiy party raykom recently reprimanded Comrade Kaygorodov for an irresponsible attitude toward the use of the rail car stock. However, the idle times on the spur track of the association not only did not decrease after this, but even increased.

We heard many valid complaints against the railroad workers at the enterprises and in the transport sections. They told us that many empty cars known to be unsuitable for loading are sent from the junction stations to the tracks of enterprises and organizations. Preparation of transit documents takes too long in the commercial offices. Failure of the Gor'kiy railroad workers to fulfill agreed upon pledges on rhythmic delivery of rail cars to the loading fronts and in forming of finished groups has become a system.

An increase in the efficiency of rail car utilization must be achieved through the common efforts of the railroad workers, the consignees and consignors. The decisions of the November Plenary Session of the CPSU Central Committee require this.

6521
CSO: 1821

# TASKS OF RAILROAD WORKERS OUTLINED IN A SPECIAL MEETING

Moscow GUDOK in Russian 15 Dec 79 pp 1, 3

[Article: "Pressing Problems of Railroad Workers"]

[Text] On 13 December the minister of railways I. G. Pavlovskiy held a general network dispatchers meeting devoted to problems of railroad workers in light of the decision of the November Plenary Session of the CPSU Central Committee, the second session of the 10th convocation of the USSR Supreme Soviet and the instructions of Comrade L. I. Brezhnev. The managers of railroad divisions, stations, locomotive and rail car depots, track, signalling and communications sections, territorial administrations of Promzheldortrans [expansion unknown], subways, rolling stock repair plants and spare parts production plants, other enterprises and subdivisions of railroad transport participated in the meeting.

"It was emphasized in the speech of Comrade L. I. Brezhnev at the November Plenary Session," said the minister, "that the significance of transport is increasing especially now under conditions of the unprecedented movement of industry to Siberia and the Far East to extend specialization and cooperation. The communist party and the Soviet government are manifesting great concern on development of the railroads and improvement of the working conditions and everyday life of people serving the country's main conveyor. At the same time they require that order be brought without delay on the railroads, that discipline in all sections be strengthened and that the transport service of the national economy and the populace be fundamentally improved."

"Speaking at the Plenary Session of the CPSU Central Committee, I reported objectively on the situation that has developed in transport and about the difficulties and reserves for overcoming them and I told about the measures which are being implemented to eliminate the existing serious deficiencies. I reported to the Plenary Session of the CPSU Central Committee that the railroad workers thoroughly recognize their ever increasing role in

transport service of the economy and the populace and that they will labor constantly to implement the decisions of the Plenary Session and the instructions contained in the historical speech of Comrade L. I. Brezhnev."

"The task of the present dispatchers meeting is to critically review the deficiencies in organization of the handling process this year and the main thing is to note and implement those measures which would guarantee stable operation and unconditional fulfillment of the 1980 plan."

"A total of 14.8 billion tons of freight has been transported since the beginning of the current 10th Five-Year Plan, which is 1.8 billion tons more than during the corresponding period of the Ninth Five-Year Plan, and freight traffic and passenger traffic increased. However, railroad transport is not fulfilling the 10th Five-Year Plan either by volumetric or by qualitative indicators. Even a decrease in the level of shipments has been permitted this year compared to last year. The lag behind the plan is significant. Fuel, ore and metallurgical raw material, lumber, grain and other most important goods are not being hauled out on time and are not reaching their destinations. This could not help but be reflected in the normal operation of some sectors of the national economy."

"The decree of the November Plenary Session of the CPSU Central Committee requires that reserves and capabilities be used to the maximum to improve the operation of railroad and other types of transport. And this places high responsibility on the managers of railroads, sections, stations, depots and other line enterprises for fulfilling the planned tasks. Many managers have resigned themselves to systematic failure to fulfill the plan. Some of them, instead of mobilizing the railroad workers to intensify shipments, do not object to justifying the interruptions of the planned tasks by so-called "objective" reasons--a shortage of carrying and transport capacities, rail cars, locomotives, spare parts and so on. It is known that this year the railroads of the Urals, Siberia and the Far East experienced serious difficulties in operational activity. The managers of this group of railroads explained all their difficulties by an enormous surplus of stock, a reduction of shunting capacity and a shortage of carrying capacity. And after all the traffic rates on these lines at many junction stations were lower than in 1978. The stock was reduced by 55,000 rail cars on the railroads of this region during the past two months and the necessary shunting capacity was created, but the shipping plans are not being fulfilled with an almost normal situation."

"A different, but also unattractive pattern has developed on the southern railroads. There has been a serious shortage of rail cars here for a long time. The managers used this to explain the failure to fulfill the shipping plan. This deficiency has now been eliminated. The operating stock now contains approximately 50,000 rail cars above the norm, which is much more than in December of last year. But not a single railroad is fulfilling the planned tasks either in total shipments and in the most important nomenclature. And the railroad and section managers cannot give a clear

answer as to the reasons for this situation. And the reasons here are mainly the following: extremely low discipline in organization of train operation, delays at the junctions, the crudest violations of operating techniques of the terminals and low level of using the locomotive stock."

"Practice shows that much higher results are achieved on those railroads where organization of operational work is persistently improved and where the proper attention is devoted to maintenance of facilities. The volume of freight shipments on the Belorussian and Transcaucasian Railroads has increased. The freight shipment plan was fulfilled within 11 months on the October, Moscow, Odessa, Transcaucasian and Transbaykal railroads. There is confidence that the collectives of the Baltic, Odessa, Transcaucasian and Tselinnaya railroads will fulfill the annual plan."

The minister further emphasized that the managers and specialists should analyze the situation more thoroughly, critically evaluate the results of work and increase their demands on themselves and their executors. This is especially important under conditions of a significant increase of shipments during the forthcoming 1980.

Freight traffic was planned in the amount of 3,510 billion ton-kilometers during the final year of the 10th Five-Year Plan. This is an increase by 173 billion ton-kilometers or 5.1 percent (the actual increase comprised 58 billion in 1976, 36 billion in 1977 and 98 billion in 1978).

More than 60 percent of the total growth of freight traffic will go to the railroads of the Urals, Siberia, Kazakhstan, the Far East and the Volga area, that is, those railroads where serious difficulties in operational work have not yet been eliminated.

Labor productivity of workers engaged in shipments should be increased by an average of 2.9 percent and the cost of shipments should be reduced by two percent.

It is quite obvious that these high positions can be taken only with persistent fulfillment of the tasks from the first day of the new year, which cannot be achieved without a sharp increase in the level of transport work now in December.

We have no more important task during the winter season than unconditional fulfillment of the state tasks on coal and bulk oil shipments. Unfortunately, some railroads are not coping with this task. Dispatch of more than one million tons of coal and more than 12,000 tank cars of bulk oil was delayed through their fault during the first 10 days of December. The debt should be completely eliminated during the second 10 days of December.

I. G. Pavlovskiy especially emphasized the need to urgently raise the level of train traffic and transfer of rail car traffic. Each additional transferred train at all outgoing junctions of the railroads means an increase

by almost 7,900 rail cars of average daily loading under modern conditions. People and primarily the traffic controllers, rail car operators, locomotive brigades and track repair workers should struggle for transfer and should aim toward this. The material incentives of each worker to increase transfer should be intensified. The struggle with delays at the junction terminals should be decisively waged and those who place obstacles in the path of train reception due to priority interests should be held strictly responsible. For example, several tens of thousands of trains were delayed by 82,600 hours in November due to failure to be received.

Elimination of these losses is our large reserve. The role of the train traffic schedule as the technological basis of interaction of all sections of the railroad conveyor should be raised to utilize it. Moreover, the traffic schedule on some railroads is being fulfilled at an extremely low level. This is the result of weakening of executive discipline among the railroad workers and primarily among dispatchers. The prestige of dispatchers collectives must be raised and at the same time the responsibility for organization of train traffic on schedule and for efficient use of carrying capacities should be increased.

Insufficient attention is still being devoted on some railroads to stations, to improve their operating technology, to introduction of leading procedures and methods of labor and to intensification of technical equipping. As a result many decisive stations are operating under high tension, are permitting prolonged rail car idle times and are not providing unhindered reception of trains. Other station chiefs, justifying the above-norm rail-car idle time by difficulties with train departure, have weakened production discipline, are not uncovering deficiencies in the work inside the station and have resigned themselves to lagging behind. The chiefs of the traffic services and railroad sections are not objectively involved in station operation, do not follow fulfillment of the forming-up plan and sometimes themselves sanction dispatch of trains with violation of the forming-up plan due to local self-interests. Violations of the forming-up plan should be evaluated as deliberate disorganization of rail car traffic and the guilty parties should be held strictly responsible up to firing them from their occupied position.

One of the most important reserves is an increase in the static load of rail cars. According to data coming into MPS [Ministry of Railways] from the railroads, 34.5 billion tons of freight were transported without recruitment of additional rolling stock during 11 months of the current year as a result of improving the use of rail car tonnage. Of course, efficient loading also played a role here. But the decision of the ministry to increase the tonnage of gondolas and flat cars to 70 tons was the main thing. After all, extensive underutilization of tonnage is being permitted for the remaining types of rolling stock! A check showed that the average underloading for each rail car comprises almost three tons on the Tselinnaya Railroad, 2.5 tons on the Northern Railroad and two tons on the Alma-Ata, L'vov, Transcaucasian, Western Siberian and Kemerovo railroads.

Moreover, this is being permitted during shipment of bulk freight--coal, construction and chemical materials, scrap metal and other freight. The managers of the railroads and sections and especially the station chiefs and those who are closer to the rail car and freight dispatcher are obligated to achieve a serious improvement in this regard.

The minister dwelt in detail on the problems of improving passenger service at the stations and on trains.

"We railroad workers," he said, "have been subjected for a long time to sharp criticism for serious deficiencies in organization of passenger traffic. A special order was issued as early as 1978 which provided a complex of measures to improve passenger services. However, no significant changes in this important matter have yet been felt. The passenger train schedule is being disrupted. For example, only 52 percent of passenger trains travelled on schedule on the Southern Railroad in November, 65 percent on the Azerbaijan Railroad, 67 percent on the Western Siberian Railroad and 73 percent on the Southern Urals Railroad.

There are still many cases of an inattentive rude attitude of conductors and ticket agents toward passengers, there are long lines at the ticket offices and trains are frequently dispatched unprepared. Passenger services should be properly organized and total service to the Soviet people sent on their way should be provided--this is a matter of honor of railroad workers.

Realization of our reserves and capabilities, the minister noted, largely depends on maintenance of technical devices and on safe operation of them. He dwelt repeatedly on the tasks of the most important sectors of the transport facilities, primarily of locomotive, rail car and track facilities.

The technical condition of the locomotive stock and especially of the diesel locomotive stock remains unsatisfactory as before.

This is the result of crude violation of the scheduled and preventive maintenance system, regular maintenance and production discipline. Unsatisfactory care of diesel locomotives on the part of locomotive brigades is also reflected. There are also many serious deficiences in the maintenance of electric locomotives.

The situation with the use of working time of locomotive brigades continues to remain unsatisfactory. Compared to last year, the number of violations of their operating regime increased by 71 percent. The number of overtime hours was increased by 15 percent. The situation is especially unfavorable on the Southern Urals, Sverdlovsk, Privolzhsk, Alma-Ata and Kuybyshev Railroads. Cases of finding brigades on the road for 15-20 hours or more are frequent on these railroads. Such a situation is no longer tolerable.

Serious interference in the transport process is occurring due to rail car malfunctions. Repair of rolling stock at mass loading junctions is poorly organized. The managers of the rail car services are obligated to fundamentally correct the situation. More effective measures to ensure the maintenance of rolling stock are also necessary.

The condition of rail facilities largely determines successful movement of trains and their traffic safety. Although more attention has now been turned toward improving repair, maintenance and repapration of track toward stable operation under winter conditions, the situation in the track facilities at some railroads causes alarm.

The minister demanded that the railroad and section chiefs adopt urgent measures to bring the tracks into order, to improve current maintenance of the rails and to confirm the schedules for postponing warnings. All the snow-removal and snow-cleaning equipment should be kept in permanent operating condition and readiness for uninterrupted operation everywhere.

"Industrial transport," I. G. Pavlovskiy said, "is a new sphere in the activity of the Ministry of Railways. The chiefs of railroads and sections should render the enterprises of Promzehldortrans the necessary assistance in repair of rolling stock, track and so on and should help them to become the standard for their customers."

The subway collectives are faced with solving crucial tasks. In 1980 the underground expresses should carry 3,854 million passengers or 180 million more than at present. The Moscow, Leningrad and Kiev subways will face a serious test during the 22nd Olympic Games. And they should be properly prepared for them.

The minister expressed extreme dissatisfaction with the state of traffic safety on some railroads. Accidents and rejection of work introduce additional difficulties and complicate to a significant degree operational work. Checks show that the managers of railroads, services, sections and enterprises where traffic safety is unsatisfactory are involved very weakly and frequently formally in specific preventive measures. Regardless of the operational situation that develops, managers of any rank are obligated to find the time and forces to do everything depending on them to guarantee total safety of train traffic.

The situation with capital construction and material supply was analyzed at the dispatchers' meeting. It is important to intensify the struggle against wastefulness and mismanagement, to achieve economical consumption of materials and spare parts and to ensure a universal saving of fuel and energy resources.

In his speech, the minister required that managers universally manifest the maximum attention and concern about the railroad workers and about our remarkable toilers. Everything should be done for uninterrupted supply of

the railroad workers and members of their families with provisions and industrial goods, especially those living on the line stations and sidings. Regular traffic of store cars and goods shipments should be provided and dispatcher groups should be created at all ors [Department of workers' supply]. Commerce by preliminary orders should be universally developed. Fuel supply of locomotive and rail car depot workers and those of other subdivisions directly related to train traffic and outside work must be organized universally.

The communist party and the Soviet government manifest constant concern about railroad transport and about increasing the material well-being of its workers. A number of important social measures has recently been implemented for material stimulation of railroad workers and for consolidation of transport personnel.

The minister noted that introduction of additional benefits appreciably intensified the influx of personnel to the railroads, especially in the Far East. Many former railroad workers have returned to transport enterprises. The number of those fired for valid reasons has been reduced significantly in some locations. This of course in no way means that the new benefits in themselves, without purposeful organizing work, will solve all the problems related to staffing the enterprises with personnel. Work should be intensified to find additional sources and capacities for more complete staffing of enterprises with qualified workers, the system of training and raising the qualifications of personnel should be expanded and practical measures should be implemented to strengthen workers and employees in production.

The minister further said that the problem of labor discipline was raised with special acuteness at the November Plenary Session of the CPSU Central Committee. There is no need to explain that discipline is of special significance in railroad transport. Strengthening of labor and executive discipline in all transport sections must be energetically implemented. Many railroad chiefs and other managers are substituting daily painstaking and educational work among the collectives by administration. The ministry requires universal and decisive improvement of educational work among railroad workers that is well-thought out and purposeful, such as that provided by the decree of the CPSU Central Committee "On further improvement of idealogical and political educational work."

An enormous role in improving the operation of transport belongs to the socialist competition--a tested method of socialist construction. The minister emphasized that now, at the end of the year, a labor competition must be organized as if each day were a shock-labor day before the beginning of the final year of the 10th Five-Year Plan. Matters should be organized so that each production collective and each railroad worker have a good knowledge before the beginning of the new year of which positions they should reach and which levers must be used to do this. It is also very important to thoughtfully and intelligently work out counter plans and socialist

pledges so that they are technically and economically justified, intensive and at the same time realistic. A competition must be organized literally from the first days of the new year for successful fulfillment of the counter plans and socialist pledges. The closest attention should be turned toward dissemination of leading experience, primarily of initiative and beginnings highly evaluated by the CPSU Central Committee.

In conclusion the Minister of Railways I. G. Pavlovskiy expressed confidence that the railroad workers, in response to the constant concern of the communist party, the Soviet government and of the General secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet Comrade L. I. Brezhnev personally, utilize all available reserves and capacities for a sharp increase in operation of railroads, for more complete satisfaction of the needs of the national economy and the populace for shipments during the final year of the 10th Five-Year Plan and that they mark the 110th anniversary of V. I. Lenin's birth with high labor achievements.

6521
CSO: 1823

## BRIEFS

BRIDGE ACROSS DNEPR--Construction of a 10-kilometer bridge crossing over the Dnepr has been started on the eastern edge of Kherson following the plan of specialists from Giprotransmost. The center part of it, 340 meters long, will be a suspension bridge: multi-ton blocks of spans will hold the steel cables and guys above the water. The chief engineer of the plan for the crossing, B. Marikov, says: "The main advantage of the guy-span construction is the smaller expenditure of materials, the economy. And, with respect to reliability, each guy wire is capable of withstanding a load of 500 tons and more." Designed for four-lane motor vehicle traffic, the crossing will replace the presently operating low-speed ferry, and it will open up a direct and fast route for wheeled transport to the Crimea, and to the Black Sea. It will not interfere with ships since it will pass above the deck superstructures. [Text] [Moscow IZVESTIYA in Russian 25 Nov 79 p 6] 10908

BRIDGE TO VIL'NYUS--Vil'nyus. One more municipal bridge, the fifth in the last decade, has been built across the Neris river to Vil'nyus. Transport traffic has begun on it. Thanks to the bridge new residential regions of the capital of the republic, which have arisen on the right bank of the river, have gained reliable communication with the center. The structure was planned by specialists from Leningrad, Alma-Ata and Minsk, and the structural parts and materials for the construction projects were supplied by enterprises of cities in the RSFSR and the Ukraine. A transport tunnel, which will come out at the main highway near Vingis Park, will be built from the new bridge below V.I. Lenin avenue and P. Tsvirki street. This will help to free the center of the city from through freight transport traffic in the direction of Kaunas. [Text] [Moscow IZVESTIYA in Russian 12 Nov 79 p 1] 10908

PAVED ROAD TO BOROVICHI--Novgorod. A new paved road has joined the city of Borovichi with the village of Khvoynyy. The latter is a 12-kilometer section of the highway which the workers of the Borovichi road building administration turned over considerably ahead of the deadline. During the years of the five-year plan the collective of the oblast production administration has put into operation over 500 kilometers of paved roads and has done major repairs on more than 1,000 kilometers of roadbed. For the ninth quarter in a row the Novgorod road builers have been awarded the challenge Red Banner of the republic ministry and the Central Committee of the trade union for the successes achieved. [Text] [Moscow IZVESTIYA in Russian 20 Nov 79 p 3] 10908

FASTER ROUTE AROUND SARATOV--Saratov. Construction of a bypass highway has begun in the city of Saratov. "This will be a highway of the first category with a length of over 30 kilometers, with four-lane traffic," relates the chief engineer of the Saratov branch of the GiprodorNII Institute, A. Kositsyn. "In several places it is planned to build bypasses on two levels." The new road will play an important role in solving the transport problem at the Saratov junction. It will link between one another the most traveled routes leading to Syzran', Penza, Tambov, Voronezh and Volgograd. By joining also the two most distant large industrial regions of the city, the Lenininskiy and Zavodskoy, the road will thus divert outside of Saratov the through traffic and partially the traffic within the city. According to the estimates of specialists the highway will rapidly pay for itself. In just one year of its operation four million rubles will be saved in transport expenditures. Whereas now, for instance, an automobile driving from Vol'sk to Voronezh crosses the whole city, taking more than an hour for this. On the new road it will bypass the city in a total of 20 minutes. [Text] [Moscow IZVESTIYA in Russian 23 Nov 79 p 6] 10908

DNESTR BRIDGE--Novyye Aneny. Construction of one of the largest bridges in the republic across the Dnestr has been started in the region of the village of Gura-Bykuluy. The most modern bridge-building technology will find wide application here. Used, in particular, are reinforced concrete structural parts manufactured by the Kiev Plant for Reinforced Concrete Products. Improved technology and new materials will make it possible significantly to reduce the times and cost of construction. [Text] [Kishinev SOVETSKAYA MOLDAVIYA in Russian 16 Sep 79 p 2] 10908

NEW ROAD IN KARAKUMS--Construction of a new road has begun in the Southeastern Karakums. It will join the right-bank kolkhozes and the sovkhozes of Chardzhouskaya Oblast. The road plan was drawn up by specialists of the Chardzhou group of the Turkmendorproyekt Institute. The new main route will greatly improve the delivery of Khodzhambas cotton to the Farab plant, and reduce the losses of it. The road will pass through Yapash and Narazym tract where reclamation specialists of the oblast have developed 3,000 hectares of virgin lands, and in the next three years farmers here will receive another 2,000 hectares. Soon agricultural freight will go along the new route. The new road will improve transport connections between the kolkhozes and sovkhozes of the oblast. [Text] [Ashkhabad TURKMENSKAYA ISKRA in Russian 31 Aug 79 p 4] 10908

ROAD TO ORE DEPOSIT--A 50-kilometer highway has been put into operation in southern Uzbekistan to the mountain settlement of Khandiz. A large deposit of polymetallic ores is located here. The road will help more rapidly to develop the riches of the underground "storehouse" on the basis of which it is planned to create a new economic region. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 17 Oct 79 p 2] 10908

SOUTHERN BUG BRIDGE--Excavation work has been started for construction of a new bridge across the Southern Bug near the village of Pribuzhany in Voznesenskiy Rayon in Nikolayevshchina. The bridge will be 400 meters long. Special equipment will make it possible to let ships of any sizes pass. Construction is being done by assembly and construction administration No. 2 of Kievdormostostroy. [Text] [Kiev PRAVDA UKRAINY in Russian 20 Sep 79 p 1] 10908

PNEUMATIC FREIGHT ROUTE--Tula, 14. Compressed air has replaced trucks for hauling crushed stone at the stone quarry near Tula. This unusual road has joined the quarry and the asphalt-concrete plant. Control of the route is fully automated. The operator has to press a button on the control panel, and a train, comprised of containers, takes the freight to the quarry and, driven by compressed air, rushes inside the steel pipe to the plant at a speed of 40 kilometers per hour. In one trip 15 tons of freight is transported along the pneumatic line. [Text] [Moscow PRAVDA in Russian 15 Oct 79 p 2] 10908

MOSCOW-SIMFEROPOL' HIGHWAY--"Our BAM" [Baikal-Amur Main Line] is what the builders of SU [Construction Administration] 862 call the new Moscow-Simferopol' highway. In this is both the pride for the construction project entrusted to them, and the importance of the route. So far there are no highways like this near Moscow, or in the country in general. This will be a high-speed multi-lane main route with a wide dividing strip, without intersection with other routes, with large and convenient highway bypasses, equipped with the most modern technical devices for road signals. For the first time in the history of the Olympic Games, the flame lit in Olympia will be brought to the capital of a socialist state, along this highway. At the end of last year the builders had already turned over the first section of the highway in the region of Podol'sk. Ahead are months of intense work on the laying of the Moscow BAM. [Text] [Kiev PRAVDA UKRAINY in Russian 18 Aug 79 p 4] 10908

ROKSKIY AUTOMOBILE TUNNEL--Ordzhonikidze. The cutting of the first, most difficult kilometer of the Rokskiy automobile tunnel has been completed. The builders have kept their word--they have completed the operations ahead of schedule, by the anniversary of the Great October Revolution. Success was aided by the clearcut organization of labor, skillful use of mining mechanisms, and incorporation of the know-how of the best ones. The Rokskiy tunnel is the main link of the highway under construction which will pass at an altitude of 2,200 meters above sea level and provide the shortest connection between the south of the Russian Federation and the Trans-Caucasus. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 46, Nov 79 p 3] 10908

NERYUNGRI BRIDGE--Neryungri, Yakutsk ASSR. Laying of the rails has begun on a four-span railroad bridge across the Upper Neryungri river. Up to now fuel has been delivered for the city's central boiler facility by expensive motor vehicle transport. Now the coal will travel by rail. The new crossing will also join the city with the home-building combine, which will make it possible to deliver large wall panels directly from the shops of the home-building combine to the construction sites. [Text] [Moscow IZVESTIYA in Russian 27 Nov 79 p 1] 10908

KHOSTOY-SOCHI TUNNEL--A new tunnel which has gone into operation between Khostoy and Sochi will straighten out for three kilometers the route of buses and motor vehicles along the Black Sea coast. [Text] [Moscow NEDELYA in Russian No 45, 5-11 Nov 79 p 4] 10908

MARI ASSR BRIDGE--Yoshkar-Ola. Remote rayons of the Mari ASSR, the Orshanskiy and Novotor"yal'skiy, have been joined by a four-span bridge across the Oshla river. It has opened on the Orshanka-Pektubayevo highway. The bridge was built three months earlier than the deadline. Since the start of the five-year plan 23 highway crossings have been built in the autonomous republic. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 23 Nov 79 p 1] 10908

NEW MARI ROAD--Yoshkar-Ola. One more rayon of the Mari ASSR, the Morkinskiy, has gained reliable automobile communication with the republic center. Put into operation here was the asphalt-concrete paved Shelanger-Morki road, about 60 kilometers long. Since the beginning of the five-year plan over 330 kilometers of improved highways have been put into operation in the autonomous republic. [Text] [Moscow IZVESTIYA in Russian 28 Nov 79 p 3] 10908

ZEYA RESERVOIR BRIDGE--With completion of concrete pouring into another support of the bridge over the Zeya reservoir an important stage of construction of the bridge has been completed. Construction of bridge spans has now begun on this major project on the eastern arm of the BAM. [Blagoveshchensk Domestic Service in Russian 1000 GMT 23 Oct 79]

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